MAY 28 1928

Medical Lib.

This Issue Exceeds 95,000 Copies

THE JOURNAL

OF THE

American Medical Association

Annual Subscription, $5.00 | PUBLISHED WEEKLY | Single Copies, 20 Cents

VOLUME 90, No. 21 | 535 North Dearborn Street, CHICAGO, ILL. | MAY 26, 1928

CONTENTS AND SUBJECT INDEX

Appendicitis. John B. Deaver, M.D., Philadelphia 1679

How Long May Man Live with Obstructive Jaundice? O. H. Wangensteen, M.D., Minneapolis..1683

Canadian Fish, a Source of Broad Tapeworm. Teunis Vergeer, Ann Arbor, Mich. 1687

Cerebrospinal Fluid Pressure in the New-Born. Donald Munro, M.D., Boston 1688

Operability in Cancer. Benjamin Rice Shore, M.D., New York.1690

Factors Reducing the Mortality in Nitrous Oxide-Oxygen Anesthesia. George A. Haveman, M.D., Columbus, Ohio.....1692

The Association of Pylorospasm and Thymic Enlargement in Children. M. I. Rubin, M.D., Chicago...1694

Colloid Carcinoma of Rectum. Louis J. Hirschman, M.D., and Millard S. Rosenblatt, M.D., Detroit.....1697

Staphylococcus Filtrates in Chronic Staphylococcic Pyodermas. Sigmund S. Greenbaum, M.D., and Malcolm H. Harkins, V.M.D., Philadelphia 1699

Creeping Eruption. G. F. White, M.D., Washington, D. C., and W. E. Dove, B.Sc., Dallas, Texas.1701

Meralgia Paraesthetica: Etiology and Surgical Treatment. Byron Stookey, M.D., New York.....1705

CLINICAL NOTES, SUGGESTIONS AND NEW INSTRUMENTS

A Fetal Manikin. Harry S. Fist, M.D., Los Angeles.....1707

Ectropion of Lower Eyelids. Samuel G. Berkow, M.D., Perth Amboy, N. J. 1708

Pillow for Operations on the Spine. M. M. Knowles, M.D., and Dorothy Tyler, R.N., Chicago.....1709

Nasal and Eye Chambers. Jay N. Fishbein, M.D., Philadelphia..1709

Forward Luxation of the Ulna. William A. Horan, M.D., Providence, R. I. 1710

COUNCIL ON PHARMACY AND CHEMISTRY 1711

MEDICAL EDUCATION

Schools of Chiropractic and of Naturopathy 1733

MISCELLANY

The Beginning of Local Anesthesia. Carl Koller, M.D., New York.1742

EDITORIALS

The Senate Recognizes the Rights of the Physician.....1712

Martyrs of Medicine.....1712

Protein Reserves.....1713

CURRENT COMMENT

The Parathyroids.....1714

Tularemia in Birds.....1715

(Subject Index on next page)

ASSOCIATION NEWS 1715

Entered as Second-Class Matter, June 25, 1885, at the Postoffice at Chicago, Ill., under Act of March 3, 1879. Acceptance for mailing at special rate of postage provided for in Section 1103, Act of October 3, 1917, authorized on June 14, 1918. If undeliverable, return postage is guaranteed

Copyright, 1928, by the American Medical Association. NEXT ANNUAL SESSION, MINNEAPOLIS, MINN., JUNE 11-15, 1928

Just Ready—De Lee's Obstetrics, *Revised*

Both text and illustrations received careful revision in the preparation of this *New (5th) Edition.* The greatest increase was made in those sections devoted to the work of the general practitioner. Dr. De Lee added many new illustrations, and rewrote completely the chapters on the Treatment of Hyperemesis, Eclampsia, Abruptio Placentae, Placenta Praevia, Ruptura Uteri, Postpartum Hemorrhage, Breech Presentation, and the Operation of Forceps. The chapter on Contracted Pelvis reflects the latest simplified methods of treatment. The chapter on Forceps is much enlarged and contains new illustrations. The illustrations for the new low, or cervical cesarean section—laparotrachelotomy—have been improved and increased in number to make the operation more easily learned. The operation of Gottschalk-Portes, temporary explantation of the infected uterus, has been briefly described. The chapters on Embryology and on Puerperal Infection have been revised. In this edition, too, he has drawn attention to the factors which make for a high maternal mortality, laying emphasis upon the causes and their prevention.

Octavo of 1140 pages, with 1128 illustrations, 201 in colors. By Joseph B. De Lee, M.D., Professor of Obstetrics at the Northwestern University Medical School. Cloth, $12.00 net

6 other SAUNDERS BOOKS on Page 3

SUBJECT INDEX TO THIS ISSUE

The letters used to explain in which department the matter indexed appears are as follows: The Star (*) indicates an Original Article; "ab," abstract; "E," Editorial; "C," Correspondence; "Ml," Medicolegal; "ME," Medical Economics.

A. M. A. Council on Medical Education and Hospitals, report on schools of chiropractic and naturopathy....*1733
Golfing Tournament, Minneapolis....1715
New and Nonofficial Remedies....1730
Abdomen abscess perforates diaphragm..ab-1747
Abscess, perinephritic, spine curvature in.C-1730
Acidosis, insulin for....ab-1752
Acriflavine intravenously in encephalitis...1732
Actinomycosis of bones....ab-1758
of central nervous system....ab-1758
tumor of colon....ab-1754
Allergy, heredity ab-1746
etiology of migraine....ab-1747
Amputations, end-results ab-1747
Anemia, pernicious, hemolytic substance in blood ab-1746
Anesthesia, cocaine, history....*1742
accidents, cardiac reanimation....ab-1753
nitrous oxide-oxygen, reducing mortality.*1692
Angina, agranulocytic, transfusions in..ab-1756
Antiferments in acute pancreatitis....ab-1755
Appendicitis *1679
in persons over fifty....ab-1750
Appendix, angiofibroma ab-1753
vs. gallbladder disease....ab-1757
Army, British, death penalty....1722
Association News 1715
Asthma sputum bacteriology....ab-1746
Bacillus pyocyaneus infection....ab-1751
cultures, sterilizing 1723
de Baisieux, Théophile, monument to....1725
Bile salts, erythrocyte hemolysis by....ab-1751
Biliary Tract surgery, results....ab-1752
mucoclasis and surgery....ab-1757
Birds, tularemia in....E-1715
Bladder calculi, recurring....ab-1758
cancer, radium therapy....ab-1758
outlet, restoration ab-1758
total extirpation ab-1758
Blood chlorides, estimation ab-1749
phenylhydrazine effect on....ab-1745
transfusions in agranulocytosis....ab-1756
Bones, actinomycosis ab-1758
localized cystic fibrous osteodystrophy.ab-1755
Book Notices 1739
Books Received 1742
Brain, ventricular system....ab-1746
Breast cancer, postoperative prognosis..ab-1747
Bureau of Investigation....1728
Burns, ectropion of eyelids after....*1708
Cancer, operability in....*1690
control, Belgium 1725
control, Brazil 1725
Cats, creeping eruption from....*1702
Cerebellum tumors in twins....ab-1746
Cerebrospinal Fluid pressure in new-born.*1688
Cesarean Section, uterine rupture after.ab-1757
Chiropractic schools *1733
Cholera, protective inoculation....ab-1756
Cold, chambers for applying....*1709
Colds vs. heat regulation....ab-1758
Colon, actinomycotic tumor....ab-1754
Corn ensilage, milk from cows fed on....1731
Correspondence 1729
Council on Pharmacy and Chemistry....1711
Cowpox, concomitant infections....ab-1749
Creeping Eruption, causation....*1701
Cresol, dextrose solutions containing....1711
Deaths 1727
Dextrose solutions containing cresol....1711
Diabetes Mellitus, synthalin in....ab-1746
with renal diabetes....ab-1749
Diarrhea, chronic, and tetany....ab-1745
Diphtheria and the social milieu....ab-1756
Disinfection, pressing machine for....1726
Dogs, creeping eruption from....*1702
Electric lamp for sterilizing bacterial cultures 1723
Empyema, treatment 1731
Encephalitis, conjugate ocular spasms...ab-1758
acriflavine intravenously 1732
Epilepsy, treatment ab-1751
Erythrocytes, hemolysis by bile salts....ab-1751
Esophagus, sensitiveness 1725
Eye chambers for applying heat or cold..*1709
conjugate spasms in encephalitis....ab-1758
Eyelids, ectropion after burns....*1708
Fallopian Tube excision, pregnancy after.ab-1757
Fetus, manikin for teaching obstetrics....*1707
Figs, poisoning from eating....ab-1758
Fish, host of tapeworm....*1687
Food, handling by public prohibited....1724
Foreign Letters 1722
Fractures, healing ab-1747
healing and parathyroids....E-1714
syphilis interfere with bone union in?....1730
Furunculosis, staphylococcus filtrates in..*1699
Gallbladder vs. appendix disease....ab-1757
Ganglion, Neumüller-Orator operation..ab-1755
Goiter, endemic ab-1753
Grouse, ruffed, tularemia in....E-1715
Harrison Narcotic Act, tax increase....E-1712
Health conditions in Prussia....1726
fundamentals of 1722
Heart defect, congenital ab-1748
functioning, modifications ab-1753
percussion, value....ab-1749
reanimation in anesthesia accidents...ab-1753
Heat, chambers for applying....*1709
regulation vs. colds, etc....ab-1758
Heating, importance for health....1726
Hemorrhoids, rectal cancer from....*1697
Hernia, strangulated, reduction....ab-1753
Hiccup, treatment ab-1756
Hop pickers, hygiene of....1722
Hospital, radios installed in....1724
week, Brazil 1724
Infantilism, treatment 1731
Infants, new-born, spinal fluid pressure in.*1683
Infection, appendix focus of....*1679
concomitant, reciprocal effect....ab-1749
Influenza vs. heat regulation....ab-1758
Insanity and testamentary incapacity distinguished Ml-1744
Insurance: health, disability to follow occupation Ml-1744
Jaundice, obstructive, how long may man live with *1683
Keratitis, interstitial, treatment....1731
Kidneys, phenylhydrazine effect on....ab-1745
Leprosy, blood cholesterol in....ab-1751
syphilitic tests in....ab-1751
Licensure, bogus diplomas in 1877....1743
Liver, phenylhydrazine effect on....ab-1745
function in sprue....ab-1750
Lung apex, percussion ab-1754
echinococcosis ab-1754
Lupus erythematosus, gold salts for....ab-1754
Malaria, plasmochin in....ab-1754
quinine and acetarsone in....ab-1751
Manikin, fetal *1707
Marriages 1726
Martyrs of medicine....E-1712
Measles, cytologic changes in....ab-1756
epidemic, London 1723
Medical Education, Registration....1733
Medicolegal 1744
Meetings, Coming Meetings....1744
Meningitis, compulsory vaccination?....1725
Meralgia paraesthetica *1705
Methyl violet for sterilizing cultures....1723
Migraine, etiology ab-1747
Milk from ensilage fed cows....1731
Mouth diseases, Besredka's antivirus for..ab-1752
Myeloma, multiple ab-1747
Naturopathy, schools of, report of inspections *1733
Nematodes, creeping diseases from....*1701
Nephritis, amebic ab-1752
Nerve, optic atrophy, sulphur in....ab-1757
Nervous System, actinomycosis....ab-1758
Neuritis of external cutaneous nerve....*1705
New and Nonofficial Remedies....1711, 1730
News 1716
Nitrogen minimum and protein reserves..E-1713
Noguchi, Hideyo, yellow fever martyr....E-1712; 1727
Nose chambers for applying heat or cold..*1709
Obstetrics, teaching, fetal manikin for....*1707
Pancreas, calculi, multiple....ab-1751
Pancreatitis, acute, quinine in....ab-1755
Parathyroids and fracture healing....E-1714
Pemphigus, ultraviolet rays for....ab-1751
Peritoneum hemorrhage, treatment....ab-1756
Pessary, passing of....C-1729
Phenylhydrazine effect on blood....ab-1745
effect on kidneys and liver....ab-1745
effect on tissues....ab-1745
Philadelphia University of Medicine and Surgery 1743
Physician, danger of syphilis inoculation..1730
Pillow for spinal operations....*1709
Pregnancy after tubal excision....ab-1757
vomiting of, insulin for....1725
Pressing machine for disinfection....1726
Prostate, enlarged, vasectomy in....ab-1757
Protein reserves and nitrogen minimum..E-1713
Pruritus of unknown etiology, treatment...1732
treatment, in aged....1732
Pylorus spasm with thymic enlargement...*1694
Queries and Minor Notes....1730
Quinine, treatment of pancreatitis....ab-1755
Rabies, study of brain lesions....ab-1746
Radios installed in hospitals....1724
Radium measurement 1730
Radon 1730
Recklinghausen's Disease ab-1754
Rectum, cancer, colloid....*1697
Da Rocha, Franco, honors to....1725
Roussiel, Marc, death....1726
Sarcoma, experimental ab-1749
Scapula, fracture of surgical neck....ab-1754
Scarlet Fever, blood urea in....ab-1756
vs. tonsillitis susceptibility ab-1748
School, medical inspection in Liége....1725
Skin, Thiersch graft....ab-1747
Soap, increases ultraviolet rays power..ab-1756
Society Proceedings 1744
Spine surgery, pillow for....*1709
curvature in perinephritic abscess....C-1730
Sprue, liver function in....ab-1750
Staphylococcus filtrates in pyodermas....*1699
State Board Examinations....1733, 1738
Stomach, alcohol test meal....ab-1748
cancer in callous ulcerations....ab-1752
syndrome with late pains....ab-1752
Street cars, psychotechnical laboratory....1723
Surgery, preoperative care....*1692
Sweat, treatment of hyperhidrosis....1730
Sycosis vulgaris *1699
Syphilis, bismuth in....ab-1751
concomitant infections ab-1749
inoculation, danger to physician....1730
interfere with bone union in fracture?...1730
Tapeworm, fish host of....*1687
Teeth, infected, diagnosis....1732
Testicles transplantation ab-1755
Tetanus, high subarachnoid injection for...1724
Tetany and chronic diarrhea....ab-1745
Thiosulphate vs. arsenic elimination....ab-1749
effect on lead excretion....ab-1749
Thymus, enlarged, with pylorospasm....*1694
Thyroid, retrosternal, dyspnea in....ab-1753
Tissues, effect of phenylhydrazine on....ab-1745
juice, isoagglutinin in....ab-1756
Tonics and Sedatives....**Adv. page 22**
Tonsillitis, blood urea in....ab-1756
hypersympathicotonia and ab-1756
vs. scarlet fever susceptibility....ab-1748
Trephining, silver plate after....1730
Tubercle Bacillus, filtrable form exist?..ab-1758
Tuberculosis, diagnosis, early....ab-1750
height, weight and chest girth....ab-1754
heredity ab-1752
intradermal salt test in....ab-1746
polymorphonuclears in....ab-1755
pulmonary, Matéfy test....ab-1754
serodiagnosis ab-1756
surgical, heliotherapy ab-1749
treatment, Martinotti vaccine....ab-1754
virus, infection with....ab-1753
Tularemia in birds....E-1715
Twins, cerebellar tumors in....ab-1746
Ulna, uncomplicated forward luxation....*1710
Ultraviolet Rays, soap increases power..ab-1756
Ureter stricture, incidence....ab-1745
Urethra, restoring outlet....ab-1758
Urinary Tract calculi in children....ab-1752
Urine, nitrogen partition....E-1713
retention, glycerite of boroglycerin in.ab-1753
Uterus calculi, recurring ab-1758
displacement, pessary for....C-1729
quinine effect on....ab-1751
rupture after cesarean section....ab-1757
Vasectomy in prostatic hypertrophy....ab-1757
Venereal Disease, compulsory treatment....1723
to prevent quackery in....1724
Ventilation, importance for health....1726
Workmen's Compensation Acts: trauma without external evidence Ml-1744

BOOK BUYING SIMPLIFIED
We supply new and standard medical works of all publishers
ONE ORDER—ONE REMITTANCE
GET OUR LATEST BULLETIN
CHICAGO MEDICAL BOOK CO. 435 S. Honore St. CHICAGO

Write for FREE SAMPLE X-ACTO R.T.M Hypo Needle made of V2A KRUPP RUSTLESS STEEL
S. DONIGER & CO. 23 E. 21st St., New York
Makers of X-ACTO Syringes

The Journal of the American Medical Association

Published Under the Auspices of the Board of Trustees

VOL. 90, NO. 21 CHICAGO, ILLINOIS MAY 26, 1928

APPENDICITIS *

JOHN B. DEAVER, M.D.

PHILADELPHIA

Clinically, both for simplicity and for safety, appendicitis should be spoken of only as acute and chronic. While it is true that as a rule nonperforative and perforative appendicitis can be differentiated, this is not always possible; therefore the best interests of the patient are not served if delay is counseled because the case appears to be a nonperforative one. This point has often been the deciding factor in choosing between an immediate and an interval operation, a decision often attended with much risk, not only in the perforating case but also in the other acute varieties, such as the phlegmonous and gangrenous.

I believe that it is not always possible to make the clinical diagnosis harmonize absolutely with the pathologic manifestations. In my teaching I am insistent on this. I believe that the attempt at hair-splitting diagnoses may be responsible for complications, sequelae, morbidity and mortality in the disease. My practice in the treatment of acute appendicitis conforms with these utterances, and I may say that I have few regrets.

What are the different locations of the appendix? Is it possible to denote the position of the appendix when acutely inflamed? What bearing has the location of the inflamed appendix on the method of attack? What are the conditions that make the diagnosis of acute appendicitis doubtful at times? Is the diagnosis always possible? What conditions does acute appendicitis sometimes simulate? What are the most important physical signs in the diagnosis of acute appendicitis? How much importance can be attached to the blood picture in acute appendicitis? Has the expression left-sided appendicitis any significance? If so, what? What is the relational or topographic importance of the anterior longitudinal muscular band of the cecum, the ileocecal and subcecal fossae, the ileocolic and ileocecal folds—the lighthouses that the surgeon looks for to guide him safely in his appendical operative tours? What are the best routes of approach to the acutely inflamed appendix, in the absence and in the presence of an appendical collection? Is the appendix the most common intra-abdominal focus of infection? In acute conditions of the abdomen should the appendix be thought of first, last and always except in cases presenting an abdominal scar from a previous abdominal operation? What are the most common sites of appendical secondary collections? How is appendical infection carried to distant parts? By what routes does appendical infection reach the blood stream? Finally, what is the best treatment for acute appendicitis?

The history of acute appendicitis is pain referred to the periumbilical region or the epigastrium followed by vomiting which coincidentally ceases with the reference of pain to the location of the appendix. In about 60 per cent of cases the appendix lies lateral to or behind the cecum and ascending colon and points upward; in about 30 per cent it is either in the false or in the true pelvis and points downward; in about 10 per cent it is below the apex of the cecum or along the mesial side of the ascending colon, beneath the terminal mesentery or ileum pointing to the left either downward or upward, and above the terminal mesentery and ileum pointing upward and to the left.

In the most common position the pain is referred to the region of the cecum, or high up, or to the loin. In the second most common position the pain will be referred low down in the abdomen and to the left side, and when the appendix is in the true pelvis pain is always referred to the left side. In the remaining positions the pain is referred to the region of the cecum, either to the left side low down or high up, as the case may be. I have learned to attach the consideration which it merits to this knowledge of the topography of the appendix, for I believe that the want of this knowledge is responsible for the fact that many early diagnoses are missed or made less certain. I will refer to this at greater length in the course of this discussion.

It is usually possible to denote the position of the appendix in the acute case, if seen early, before the presence of distention. This is accomplished by gentle and light palpation following the line of greatest tenderness, which will correspond to the location. This is particularly true in the high-lying appendix, in which the intensity of the inflammation in its terminal portion is so often interpreted as inflammation of the gallbladder. Palpation made from the base of the appendix and directed upward will first detect slight tenderness in the line of the appendix, which increases as the pressure is directed upward until the position of the end of the appendix is reached where, if the inflammation is intense, the tenderness will be unbearable even to the slightest pressure. If the patient is not seen early, before the irritation of the surrounding peritoneum has become diffuse, differential diagnosis cannot always be made until the irritation has subsided. Often I am unable to satisfy myself that I am not dealing with an acute inflammation of the gallbladder; but after putting the patient on anatomic and physiologic rest for a few hours, which allows the peritoneal irritation to subside or become much less, I have been able to make the differentiation by gentle palpation.

The relation which the appendix bears to the different zones of the peritoneum has a bearing on the severity

* The R. W. Stewart Memorial Lecture, read before the Pittsburgh Academy of Medicine, Feb. 28, 1928.

of the attacks. When the appendix lies lateral to or behind the ascending colon and holds a high position, with pus formation in close relationship to the diaphragmatic zone, the most important peritoneal zone, the possibilities for absorption and toxemia are greatest.

The second most important peritoneal zone is central, the intestinal labyrinth, often spoken of as the enteronic area. The third peritoneal zone, the pelvic peritoneum, is the most tolerant to the presence of infection, and this is the reason that pelvic peritonitis is not so dangerous as peritonitis higher up. The peritoneal zone lateral to the cecum is tolerant to the presence of pus; therefore, when one encounters appendical suppuration in this region the case is more favorable than when the collection is on the inner side of the cecum in relation to the coils of the small intestine. These are points of more or less importance not only from the prognostic point of view but also in considering the best route for attack at operation. It is generally agreed that the danger is greater when one is operating on an appendical abscess centrally located and surrounded by coils of small intestine. It is especially in this type of case, if operation has not been performed before peritonitis has occurred, that anatomic and physiologic rest offers a better prognosis than precipitate operation.

Conditions that may make the diagnosis of acute appendicitis doubtful are the three already referred to, the presence of a terminal inflammation or perforation of a high-lying appendix, and appendical infection of the right loin, pyelitis, perinephritic inflammation, hematogenous infection of the right kidney, stone in the right ureter with blocking and infection of the ureteral walls, early psoasitis, acute inflammation of the mesenteric gland at the ileocecal junction, inflammation or gangrene of Meckel's diverticulum, right-sided inguinal hernia incarcerated at the internal abdominal ring, sigmoidal diverticulitis, retroperitoneal lymphangitis, small strangulated inguinal hernia reduced *en bloc*, and torsion of a portion or the entire great omentum.

Among the pelvic conditions occurring in the female that cause confusion are: ruptured extra-uterine pregnancy on the right side in which the opening is very small and there is little bleeding or in which the tube has not ruptured but the walls are under great tension; right-sided acute tubo-ovarian inflammation, and small ovarian cyst, with twisted pedicle. Perforation of the base of the appendix very close to its junction with the cecum, making practically a perforation of the cecum, and occurring suddenly with an almost board-like rigidity of the walls of the right side of the abdomen that simulates the rigidity of perforated duodenal ulcer, makes it impossible in some instances to differentiate except by incision and inspection. In favor of perforating ulcer is diffuse muscular rigidity, while a perforating appendix presents more limited rigidity; this distinction, however, is not always possible nor does it always help to make the differentiation. Under these circumstances, a typical history of ulcer is of the utmost importance.

Some hours after ulcer perforation the escaping fluid of the perforated viscus gravitates by way of the external paracolic groove and causes tenderness and fulness in the cecal region, thus making a picture not unlike that of appendicitis. I have seen this many times. The discussion along these lines could be carried further, but I believe I have said enough to justify the statement that a diagnosis of acute appendicitis is not always possible.

I feel reasonably certain that some of the conditions I have referred to as confusing the diagnosis account for some of the present high mortality of acute appendicitis. This confusion may delay operation at the most opportune time; namely, at the earliest possible moment before a forbidding peritonitis has occurred. Another, and in all respects the most important factor for the present high mortality is precipitate operation in the presence of peritonitis, and still another contributory factor is not at once removing the appendix that has recovered from an acute attack. To advise deferring operation after an acute attack has subsided until a recurring attack, or to advise operation only if the subject contemplates a long visit away from home, is gambling with human life.

The diagnosis, as I have said, is not always possible but often it can be made if the case is not a fulminating one and the patient is seen early. But when there is a sudden explosion, caused, for example, by a large perforation at the base of the appendix, or when there is total gangrene of the appendix, unless the patient is seen immediately the diagnosis may be much befogged. In these and other circumstances the trouble may be due to a gangrenous Meckel's diverticulum or to an acute intestinal obstruction occurring at the site of a peritoneal fossa, herniation through the foramen of Winslow, or through a congenital hole in the mesentery or by a mesenteric thrombosis. I have even seen a knuckle of small bowel imprisoned in the upper end of the inguinal canal and of the femoral canal cause doubt in a stout subject. Any of these conditions call not for delay in order to permit a differential diagnosis, but for the immediate opening of the abdomen. Many a precious life has been hurried to the eternal rest of the grave by this sort of diplomacy, if I may call it that.

The most important physical signs in the diagnosis of acute appendicitis are tenderness and muscular rigidity over the region corresponding to the position of the appendix. Before there is an exudate, which is usually purulent, the tenderness is pronounced but not exquisite. Having the patient take a deep breath and then cough will excite pain at the site of the appendix. Exquisite tenderness I regard as a positive sign of pus and a more valuable one than leukocytosis. I have a complete blood count taken in all cases, but it is the polymorphonuclear count that I lay stress on, especially in the very toxic cases. In passing, I would say that this practice is one that requires experience and careful observation; the less experienced physician will do better if he carefully considers the blood count. The practice, however, of not making a diagnosis until the leukocyte count is known is, I confess, hard for me to understand; and furthermore not to advise operation unless there is a leukocytosis, and if comparatively low to wait for a rising count is equally hard for me to understand.

Left-sided appendicitis is an incorrect expression except in cases in which there is a transposition of the abdominal viscera and the appendix is actually on the left side. Left-sided abdominal pain or left-sided appendical abscess means that the inflamed appendix holds one or the other of the lower positions, and when very low down in the pelvis there is often vesical irritation from proximity or involvement of the serosa of the bladder. It is in this type of case that rectal and vaginal or rectal examination alone elicits marked or exquisite tenderness or the presence of a painful mass, which by pressure on the rectum may cause frequent

desire to stool. In the presence of vesical symptoms there may be inability to void urine with overflow, or the act of voiding may be very slow and painful. When this occurs I at once have a catheter passed to determine whether the suprapubic swelling is due to a distended bladder or to a pelvic collection. I frequently ask the intern or the nurse in charge whether the patient has voided, and if the answer is "Yes, he passes urine very frequently but in small amounts," I always take it as an indication to pass a catheter. A similar condition is encountered in some gastric conditions in which the patient vomits small amounts of dark or foul-smelling material and in which I request a stomach tube to be passed; and when a large amount of material is evacuated, the intern or nurse shows a surprised look. This illustrates the value of practical experience as against theoretical knowledge.

In pelvic appendicitis there is bilateral rigidity of the lower abdominal walls with bilateral tenderness more marked on the left side. From what I have said, I hope I have been able to show the fallacy of the term left-sided appendicitis, which, in the absence of a transposition of viscera, is a misnomer.

The relational or topographic importance of the anterior longitudinal muscular band of the cecum, the ileocolic (vascular) fold of peritoneum, the ileocecal (avascular) fold of peritoneum, the ileocecal fossae and the subcecal fossa stand out as lighthouses to the surgeon, enabling him to carry the operation directly to the site of the lesion calling for help. I cannot stress this too strongly, as I have often witnessed an operation that consumed much more time than it should because the operator was unable to read his chart. In other words, the lighthouses were unknown quantities to him and shipwreck or operation wreck was inevitable. What more need be said in favor of the importance of anatomic knowledge that enables one to see well so that he can do well? This is as essential to the well being of the operative subject as is going into the water to learn to swim.

In the presence of a mass or collection lateral to the colon and cecum or below the cecum, the extraperitoneal approach through an incision carried to the lateral side of the swelling and through the underlying abdominal muscles down to the transversalis fascia, which is usually found infiltrated, enables the surgeon to evacuate the collection and in the majority of instances to remove the appendix with the minimum amount of intraperitoneal dissection. The incision of the peritoneum is made low down and beneath the swelling, and when the infiltrated transversalis fascia is pushed aside the swelling produced by the collection is exposed. In fact, in some cases by carrying the index and middle fingers beneath the swelling, I am able to lift it up as it were. To attack these collections by first opening the peritoneal cavity adds materially to the mortality. I have said in the majority of instances, but I may say that in practically all cases except those in which the collection is completely walled off I am able to take out the appendix. When the collection is completely walled off and the appendix is not seen or felt, I simply evacuate and drain, and take out the appendix when the patient has convalesced from the drainage procedure. Recovery from a drainage operation does not mean that the appendix has been destroyed; therefore subsequent removal of the appendix should be made.

In a collection in the pelvis, the incision should be made low down lateral to the rectus muscle. When this technic can be satisfactorily carried out, and it can be done in practically all of this type of cases, I have little doubt of recovery.

When the pelvic collection is central and can be felt immediately above the pubis, I pass a catheter, empty the bladder, and incise the abscess through the median line, evacuate and drain, and do nothing more. When the collection is felt through the rectum as well as above the pubis, I incise above and not through the rectum.

In the female, I occasionally evacuate such collections by an incision through the vault of the vagina behind the cervix and at its junction with the cervix. In a palpable and well circumscribed collection in the enteronic area, after subsidence of the peritonitis, I simply incise and drain the abscess and leave the removal of the appendix for a later operation. Too radical surgery in this class of cases is ill advised. In the very late cases the patients are toxic, and, if operation is not judiciously made, death will occur more often than recovery. In short, these are trying cases, giving even the surgeon with a large experience much concern.

What are the best routes of approach in the operation of removing the acutely inflamed appendix? In the early case, in the absence of a palpable mass, exquisite tenderness, and very decided muscular rigidity, I prefer the McBurney incision or the approach through or lateral to the rectus muscle, through the semilunar line. The latter allows displacement mediad of the lateral border of the muscle, thus enabling the incision in the peritoneum to be made so that when closed it lies behind the muscle. Separate suture of the two layers of the anterior sheath of the muscle is next made and the skin wound closed. In the uncomplicated early case, these are the only routes that I take. In the female the route through the rectus muscle is preferable because it permits greater ease in passing the finger or fingers into the pelvis to examine the uterus and its appendages. In the event that the McBurney, the muscle splitting or the gridiron incision has been made, and a condition that calls for more room has been encountered, the wound can be enlarged by cutting either upward or downward or both, through the semilunar line. In some instances I cut across the internal oblique and transversalis muscles to allow myself plenty of leeway, which is most important in carrying out the technic that prevents the dissemination of infection.

The appendix is the most important focus from which infection is borne. I do not except the tonsils, teeth or sinuses, on which I have always thought and still think too much stress is laid, although I admit that they are at times important factors in focal infection, which, in turn, is most important in the diagnosis of disease. I have always proclaimed, and up to the present see no reason to change my mind, that the appendix is the high arch-perpetrator as a distributor of infection. I have proved, to myself at least, that practically all upper abdominal surgical ailments are primarily due to infection in the appendix, for example, cholecystitis, duodenal and gastric ulcer, multiple abscess of the liver, and a small percentage of chronic pancreatitis. This I have been convinced of by my many operations, or autopsies in vivo. This statement is made on the basis of having found a diseased appendix (if it has not already been taken out) in all of these conditions; and in cases in which it had been removed, of finding that infection had been liberated before its removal. The longer I practice surgery, the stronger I become in this stand. I do not believe that the chemical study

of the blood will ever explain the etiology of ulcer, for example; I think that it can be explained only by infection.

In acute conditions of the abdomen should the appendix be thought of first, last and always? Yes, with the exception of acute symptoms suggesting acute intestinal obstruction in the presence of an abdominal scar that will first engage one's attention and raise the question of the presence of adhesions which are so common a cause of obstruction, prompting one to open the abdomen at once. Since most operative abdominal scars are due to an appendical operation, the appendix may have been the primary cause of the obstruction.

One should think of the appendix always, as it is the most common cause of acute conditions of the abdomen. It should be thought of last if one is not able to find any other cause. In the late case of peritonitis, especially in the male, and when on account of general abdominal distention the diagnosis of the lesion cannot be determined, the appendix is the culprit in the majority of instances.

The most common sites of secondary appendical pus collections are: (1) in the immediate neighborhood of the site of the appendectomy; (2) in the pelvis; (3) beneath the liver or between the liver and the diaphragm (subdiaphragmatic); (4) centrally in the intestinal labyrinth; (5) in proximity to the spleen; (6) under the left diaphragm. Another site of secondary appendical abscess, better spoken of as residual abscess, occurring after recovery from the operation for appendicitis, is at the site of the appendectomy. It is worth while to say that these secondary collections cause toxemia, intestinal obstruction and fecal fistula.

Appendical infection reaches the blood stream through the veins of the appendix, the portal circulation, and the lymphatics.

This brings me to the pith of my discussion, the treatment of acute appendicitis. What I will say may shock some of my readers but this is better than having the patient shocked by the toxemia of delay, or by precipitate operation at an ill advised time.

The treatment of acute appendicitis should always be surgical and never medical, unless one classes treatment by anatomic and physiologic rest as medical. Anatomic and physiologic rest is the treatment for appendical peritonitis but not for the simple acute case of appendicitis, unless operation is refused, or when, on account of a serious systemic condition, operation is contraindicated. I may say, however, that with local or spinal anesthesia there are few contraindications to operation.

In acute appendicitis, in the absence of a forbidding peritonitis, operation should be performed at once; not to do so is to endanger the life of the patient. In the absence of peritonitis of any degree, operation is practically as safe as is an interval operation; however, one must not lose sight of the fact that, in any large series of operations for almost any condition, an occasional death from pulmonary embolism, acute cardiac dilatation or hemiplegia will be recorded. Barring these unforeseen conditions and extensive complications, operation should be attended by little risk. The present death rate from appendicitis recorded in vital statistics is appalling. Was it not the late master surgeon, John B. Murphy, who said that in every death from appendicitis somebody is to blame? Who is the somebody?

Fulminating, explosive appendicitis means a large perforation, and operation should be performed at once if the patient is seen early. This type of case goes rapidly on, from bad to worse. Often the deterring factor against immediate operation is the pronounced muscular rigidity due to peritoneal irritation and not to peritoneal inflammation. This, while not so pronounced, can be likened to the muscular rigidity in early perforated ulcer and does not contraindicate immediate operation.

In acute appendicitis, the ideal treatment is to take out the appendix before peritonitis occurs. This of course is not always possible, but that does not alter the truth of the statement. The danger in appendicitis is the danger of peritonitis—this all must admit; therefore if the appendix is taken out before this occurs, the risk of the operation is very small. The type and the extent of the peritonitis are factors that render the outcome uncertain and make for trials and tribulations in the surgeon's life, and too often for the death of the patient.

In acute inflammation of the appendix, the approach should be as direct as possible; for example, as near the position of the appendix as can be. A knowledge of the position of the appendix, as emphasized in the foregoing remarks, will be of service here as a guide in deciding on the site of the incision. If peritonitis is present and is circumscribed, the incision is made lateral to the point of greatest tenderness, indicating as it does the position of the appendix. In order to get a better exposure, it may be necessary to cut the internal oblique and the transversalis muscles in a direction opposite to the course of their fibers. There need not be any hesitancy in doing this, even though a hernia may develop subsequently. It is better to expose the patient to this risk than to the greater and more serious risk of disseminating the infection by an inadequate field of operation.

When the appendix lies close to the cecum and is directed upward and laterad, the safest approach is by the extraperitoneal route. This is easily done, for after the underlying muscles have been cut, the transversalis fascia, which is often edematous and infiltrated, can readily be separated from the peritoneum and the latter exposed. At this point it is not unusual to be able to obtain a fluid wave by palpation. The peritoneum is then opened in the line of the wound, and, after the usually purulent fluid is evacuated, the cecum and the appendix are exposed. Should the appendix not present itself at this stage of the operation, it can be exposed by lifting the overlying abdominal walls with Deaver retractors, packing off the peritoneal cavity with moist gauze pads, and mopping up any pus that may be there. The cecum is then grasped with the fingers and thumb and gently lifted out of the wound. It is now that the peritoneal folds act as guides to the surgeon. These are seen as the anterior muscular band, the ileocolic fold of peritoneum and the ileocecal fold, the latter of which is continuous with the mesoappendix and finally leads to the base of the appendix lying lateral to the ileocecal fold. Occasionally the appendix occupies one or other of the ileocecal or the subcecal fossae and is so well concealed as to be thought absent; but on careful dissection it will be found. Gauze pads are judiciously placed to prevent contamination of the exposed peritoneal surfaces. The appendix, having been delivered, is tied off and amputated with the cautery knife. A glass drainage tube is carried into the pelvis and any fluid present is aspirated through this. If the smear of the fluid shows organisms the tube is left in; otherwise it is removed before the wound

is closed. A cigaret drain or a rubber tube may be used instead of the glass tube, should the surgeon prefer. If the case has been a very dirty one, the wound should be left open or only loosely closed. If pus is present, it may find its way into the external paracolic groove. I always examine this groove and if I find pus I carry the inspection upward, in order to determine whether or not a collection is present between the diaphragm and the liver or beneath the liver. These areas should be thoroughly drained. This procedure often will prevent reoperation for secondary collection. In passing, it may be said that these cases represent a combined circumscribed and limited diffuse peritonitis.

In a circumscribed peritonitis in which an abscess has formed at the ileocecal junction, or beneath the terminal ileum and the mesentery, and the terminal ileum is thickened, stiff, and has lost much of its contractility, after evacuating the pus, removing the appendix and placing the drainage tube, I make an ileocolostomy. The results of this have been most satisfactory as regards convalescence, the prevention of postoperative intestinal obstruction, and the future well being of the patient. This applies especially in cases in which this portion of the bowel forms part of the wall of the abscess cavity. If this practice were more common, there would be fewer jejunostomies or enterostomies made, a practice that has never appealed to me.

In diffusing peritonitis, by which is meant a spreading inflammation not involving an extensive area and differing from the circumscribed variety in that it is not limited, the patient is sicker, but the typical peritoneal facies is absent. The pain is more marked and distributed over a larger surface, and the areas of rigidity and tenderness are also greater. Peristalsis is feeble or entirely absent, or it may be exaggerated around the inflamed area. These patients should not be operated on until the peritoneal inflammation has been controlled or has entirely subsided to the extent of making operation safe. This is brought about by "regulation," as I term it, or anatomic and physiologic rest, or the Murphy-Fowler-Ochsner treatment.

The picture of a diffused appendical peritonitis, in its early stage, is a familiar one, with its rigidity of the anterior abdominal wall, tenderness over the area, absence of abdominal breathing, peritoneal facies, rapid pulse, high temperature, and hypoperistalsis or absence of peristalsis. The blood picture shows approximately from 12,000 to 20,000 leukocytes and from 85 to 96 per cent polymorphonuclears, varying with the type of infection. In about twenty-four hours after the onset of the peritonitis, or earlier if the patient has been purged, the picture changes to one of general distention, with decreased rigidity and tenderness and the entire absence of peristalsis, followed by the silent belly. At this point the blood picture shows a lower leukocytosis but a higher polymorphonuclear count. There is diminished output of urine containing albumin and hyaline and granular casts. The skin is relaxed, sweaty and cyanotic, and there is regurgitation or vomiting of dark brown fluid, with general restlesssness but an active brain. These are ominous signs, but hope need not always be abandoned; I have seen recovery take place when the "regulation" treatment has been rigidly and conscientiously carried out. When the peritoneal inflammation has more or less subsided but has left multiple foci of pus, the patient usually dies of general toxemia. When the peritoneal inflammation has left a single large collection of pus in the pelvis or in the lower part of the abdomen, the outlook is promising for recovery after a simple drainage operation. Puncture may be made through the rectum or the vaginal vault and is usually successful.

1830 De Lancey Place.

HOW LONG MAY MAN LIVE WITH OBSTRUCTIVE JAUNDICE?*

OWEN H. WANGENSTEEN, M.D.
MINNEAPOLIS

Man ordinarily tolerates mechanical obstruction of the common bile duct fairly well. Death from obstructive jaundice in the first few weeks of its course is quite rare and is only occasionally observed. After a period varying from four to six months, however, patients suffering from occlusion of the common bile duct usually deteriorate rapidly and die. During the greater portion of this time, save for the loss of weight and accompanying loss of strength incident to the altered digestion and assimilation of the ingested food, the patient remains ordinarily wholly free from any threatening symptoms. Then suddenly the picture of a rapidly progressive intoxication is superimposed on the silent jaundice; ascites, coma and spontaneous hemorrhages may supervene, and death quickly follows.

Somewhat more than a year ago, a patient was admitted to the surgical service of the University Hospital with a profound icterus of more than three and one-half years' standing due to mechanical obstruction in the common bile duct. A discussion of the interesting features of this unique case is made the subject of this report.

REPORT OF CASE

History.—Miss M. W., aged 33, came to the University Hospital, May 3, 1926, complaining of a deep jaundice and of a dull, aching pain over the gallbladder region. The patient stated that since 1919 she had had qualitative food intolerance for fried and fatty foods. She had also had several attacks of pain of a colicky nature in the upper right quadrant of the abdomen. In March, 1922, a cholecystectomy and appendectomy with excision of a gastric ulcer had been done elsewhere. Following the operation, there had been present an external drainage of bile from the wound for almost three months. The wound then closed and the patient was free from trouble for about five months. In November, 1922, the patient became jaundiced and had remained so continuously. She frequently complained of attacks of pain in the region of the liver. These were associated at times with chills and fever. The stools were light in color for a long time. Bowel movements were possible only with cathartics. The patient said that she had lost about 15 pounds (7 Kg.). The abdomen had been moderately distended since October, 1925, and the ankles were usually swollen. Shortness of breath on exertion had been present for some months. There had been no menstrual flow for five months.

Physical Examination.—The patient was rather small but well developed and in fair nutrition. The icteric pigmentation of the skin was extreme, the patient appearing like a swarthy Mexican. The jaundice was a dark olive green. (This grade of icterus had never previously been observed by any of those of us who saw her.) On the exposed surfaces there were raised, crusted lesions of a few millimeters in diameter. The voice was rather hoarse. Though the patient responded well to questioning, her intellect seemed somewhat obtunded. The conjunctivae were a deep greenish yellow. A systolic murmur was audible at the apex. Cardiac enlargement was not demonstrable. A few moist râles were heard at the bases of the

* From the Department of Surgery of the University of Minnesota Medical School.

lungs. The abdomen was moderately distended, the flanks were dull on percussion, and shifting dulness could be made out. The spleen was palpable, firm and nodular. The liver was only palpable below the xiphoid process and seemed tender. The blood pressure was 110 systolic and 68 diastolic, and the pulse rate was 80.

Laboratory Examination. — Red blood cells numbered 3,020,000; white blood cells, 3,750; there were no microcytes. The fragility of the cells was normal. The blood Wassermann reaction was negative. The direct van den Bergh reaction was positive; the indirect, 20 units. Blood coagulation time was twenty-nine minutes; the calcium time, twenty-three minutes. The prothrombin time was negative after fourteen hours. The serum calcium was 8.67 mg. per hundred cubic centimeters of blood serum. Blood urea was 12.6 and blood sugar 0.09 mg. for each hundred cubic centimeters of blood. The stools were negative for bile pigments on several occasions. Urinalysis showed: bile pigments + + + +, and albumin, a trace; a few white blood cells and a few granular casts were present microscopically. Urobilin was absent.

After the administration by mouth of calcium carbonate, 10 grains (0.65 Gm.) three times a day for eight days, accompanied by the intravenous administration of 10 cc. of 5 per cent calcium chloride on six occasions during eight days, the coagulation time was found to be eleven and one-half and the calcium time nine and one-half minutes, May 19. (For the determination of the coagulation time, blood was drawn from an arm vein and collected in small Wassermann test tubes having an average diameter of 6 mm. The time at which the tube could be turned upside down without movement of the blood column in the test tube was taken as the end-point.) Hypodermic injection of 1.5 cc. of a thromboplastic preparation was then given. Sixteen hours later the clotting time was nine and one-half, the calcium time six and one-half, and the prothrombin time twenty-three minutes, respectively. Three hundred cubic centimeters of whole blood was then given intravenously by the Kimpton-Brown method. Shortly thereafter the coagulation time was eight and one-half and the calcium time eight minutes. The bleeding time was not determined, but no spontaneous hemorrhages were observed. The temperature before operation ranged from 97 to 103 F. The pulse varied from 90 to 125 per minute.

The preoperative diagnosis was complete occlusion of the common bile duct with extreme jaundice, probably due to stricture.

Operation and Course.—Exploratory laparotomy was done, May 22, 1926, by Dr. Law.[1] The abdomen was opened through a long right rectus incision under ether anesthesia. The bleeding in the abdominal wall was profuse. A rather large amount of bile-colored fluid was present in the peritoneal cavity. The spleen was markedly enlarged. The duodenum and omentum were intimately adherent to the lower surface of the liver. The liver itself was a dark olive green, and its surface was somewhat irregular. The liver did not appear to be enlarged. An attempt was made to find the extrahepatic bile ducts, but they could not be demonstrated. The abdomen was closed, with a Penrose drain going to the lower surface of the liver. Transfusion of 500 cc. of unmodified blood by the Kimpton-Brown method was given before as well as after the operation.

Death occurred five days after the operation and the postmortem examination was performed, May 27, 1926, by Dr. William O'Brien of the department of pathology. The postmortem examination was limited to the abdominal incision. Extreme icterus was noted, and slight rigor and hypostasis discoloration were present. There was moderate edema of the feet and ankles. The examination of the abdomen was performed through the abdominal incision, which measured 15 cm. in length. There was no evidence of hemorrhage.

A fibrinous exudate was present over the peritoneal surfaces and a moderate amount of bile-stained fluid was present. The liver was about normal in size. It was very firm and deeply jaundiced, and marked fibrous changes were apparent on its external surface. It was removed with the duodenum and pancreas intact. The spleen weighed 600 Gm. The extrahepatic bile ducts were apparently completely obliterated. When the duodenum was opened, a fistulous communication appeared to go out from a small ulcer on the superior duodenal wall to the porta hepatis, but ended blindly without any connection with a bile duct. A probe introduced into the papilla of Vater could not be passed more than 1 cm.

Microscopic examination of the liver showed marked atrophy of the liver parenchyma, with connective tissue replacement and proliferation of the bile capillaries.

The following diagnoses were made:

1. Complete obliteration of the extrahepatic bile ducts with intense icterus.
2. Obstructive biliary cirrhosis.
3. Perforated duodenal ulcer (chronic).
4. Blind sinus from the duodenum to the porta hepatis.
5. Exploratory laparotomy.
6. Acute fibrinopurulent peritonitis.

1. Dr. Law has kindly permitted me to include the report of this case.

COMMENT

An operative injury of the hepatic or common bile duct had occurred in this patient when the cholecystectomy was done, or a sloughing process obtained in the remaining portion of the cystic duct leading first to fistula and later to stricture. I have had occasion to observe the latter sequence of events progress to a localized stricture formation in the common bile duct following an insufficiency of the cystic duct occlusion attended with a prolonged external drainage of bile after cholecystectomy, when it was definitely known at operation that no operative injury of the common bile duct had occurred.

The most interesting feature about this case, however, is that for more than three years the patient had continued in fairly good health despite a most intense jaundice. Only during the last seven months of her life were her activities materially curtailed. Previous to her admission to the University Hospital three years and seven months following the onset of the jaundice, she had been able to do light household tasks and had felt fairly well. During her preoperative stay in the hospital she spent a good deal of time knitting and was quite cheerful, though her intellectual faculties were somewhat dulled. Just how long total obstruction to the bile flow had been present is impossible to state. The degree of jaundice present, however, would indicate that the occlusion had been complete for a long time.

REPORTED CASES IN THE LITERATURE

After a fairly diligent search through the literature of obstructive jaundice, with the view in mind of obtaining some information as to how long patients with occlusion of the common bile duct have been known to live, I came on the following case of Treves,[2] which is even more unique than the one just reported. Because of its unusual interest I have appended the report as Sir Frederick Treves gave it:

The patient was a young lady, aged 19, whom I saw in consultation with Mr. Alfred Cooper and Dr. Cornish. She was the child of perfectly healthy parents, and there was nothing in the family history nor in the circumstances which immediately preceded her birth which calls for comment.

As an infant, she was said to suffer from a sluggish liver. At the age of 3 years she became jaundiced. The jaundice was inexplicable, and appeared without any apparent illness and without the least abdominal disturbance. It soon reached the extremest degree of pigmentation, and never afterwards left her or became in any way modified. When I saw her, therefore, the jaundice had existed for sixteen years. During that period no bile had been noticed in the motions, the stools being always white or clay-colored. The urine always presented the deep mahogany tint of extreme jaundice, and was

2. Treves, Frederick: A Case of Jaundice of Sixteen Years' Standing Treated by Operation, Practitioner, January-June, 1899, pp. 18-20.

occasionally very offensive in odor. She is said to have menstruated twice only.

She had black hair, and was naturally of dark complexion. The pigmentation of the skin was such that she had the appearance of an East Indian. Beneath the yellowish-green tint of the skin there was a peculiar duskiness, suggestive of pigmentation of nitrate of silver. The face was swollen, puffy and expressionless, and recalled the aspect common in myxedema.

The patient suffered from great depression, and intellectually her condition would be described as dull. She was the victim of dyspepsia and constipation, and had occasional attacks of vomiting. Bleeding from the nose and gums was common. She was liable, about once a month, to certain febrile attacks, in which the temperature often rose to 104 F. The liver is said to have been enlarged when the patient was 10 years old, but when I saw her it was of normal dimensions. The patient, although well nourished, was not improving in health, and her condition was little short of deplorable. She had tried many forms of treatment, and had all her life been nursed with the greatest possible care.

It seemed probable that the jaundice was due to some congenital defect in the bile passages, and the sad condition into which the patient had fallen appeared to justify at least an exploratory incision. It was obvious that nothing could be promised by such an operation, but it was evident, on the other hand, that if a gallbladder existed, an advantageous communication with the bowel might be possible. The purely speculative character of the operation having been fully explained to the parents, I performed laparotomy on Feb. 9, 1898, with the assistance of Dr. Cornish.

The liver was of a purplish-green color, and was unduly firm. A normally placed gallbladder, distended with mucus, faintly stained with bile, was discovered. A careful examination of the bile ducts was now made. This was easily done, as the parts were quite free from adhesions. The cystic duct and the hepatic duct were apparently normal. They joined and formed a common duct. This duct, however, ended almost at once in a hard, fibrous nodule, which was placed transversely to the long axis of the duct. These ducts were all a little distended; the common duct was not half an inch in length. It was impervious at its distal extremity, and ended abruptly at the fibrous nodule. Beyond this nodule no trace of a duct could be discovered, nor was any duct noticed entering the duodenum. There was not even a fibrous cord continued beyond the nodule. I carried out a cholecystenterostomy by means of a Murphy's button. The patient made a rapid recovery, and the button was passed in about a fortnight. The second motion voided after the operation contained bile for the first time for sixteen years.

Dr. Cornish and I made an examination of the patient on Dec. 15, 1898, ten months after the operation, with this result:

She is very greatly improved in appearance. The jaundiced tint has nearly left the face and hands, and the conjunctivae are now quite free from discoloration. The skin of the trunk and lower limbs is still much pigmented. The patient has greatly improved in her mental condition, and is much brighter. Her face is no longer puffy and no longer expressionless. She is much less lethargic. She has lost 14 pounds in weight in the ten months.

The motions are normal in aspect, and appear to contain a normal amount of bile. Now and then—about once or twice a month—a clay-colored stool is passed and then there is a deepening of the icteric tint. In spite of the free passage of bile into the bowel, the urine is still bile-stained, and is said to be but little improved in color. There is still constipation, nose and gum bleeding and depression. The febrile attacks have ceased, although the evening temperature when taken is often found to be as high as 101 F. The improvement in the patient is slow but certain.

COMMENT

A study of reports of cases of carcinoma of the bile ducts or pancreas causing jaundice that ran their course without palliation of the icterus reveals that in most of them death occurs after six months' occlusion of the common bile duct. Following a cholecysto-anastomosis with the upper intestine and relief of the jaundice alone, a number of patients have been known to live much longer.[3] An investigation of the issue in atresia or congenital obliteration of the bile ducts shows that the fate is the same in these instances. Most of such patients die in the early months of life,[4] and frequently from hemorrhage. Few live beyond six months. Hertz [5] reports the instance of a man, aged 71, who suffered from icterus of obstructive origin for two and one-half years. Early in the course of the jaundice, chills and fever were present. The author felt that the occlusion was complete for about one and one-half years.

How is the rather unusual length of survival with profound jaundice of a mechanical nature in the case of Sir Treves and in the case here reported to be accounted for?

Consequent on occlusion of the common bile duct, bile accumulates in the blood and tissues and a destruction of liver parenchyma obtains. That the latter occurrence may assume a very serious aspect is apparent in the outcome of cases of acute atrophy of the liver or the outcome in animals or in man when the terminal branches of the hepatic artery have been ligated.[6] Death usually supervenes quickly because of the disintegration of the liver tissue. That the autolysis of liver tissue alone permits of the formation of a very potent toxic material has been well established.[7] Dogs in whose peritoneal cavities small pieces of liver are placed survive the procedure only for a short time.

For just what rôle in the production of the fatal issue of prolonged icterus the accumulation of bile in the organism is responsible is not so clear. Cholesterol and mucin, of the solid constituents of bile, can by fairly general consent be said to be relatively nontoxic. Some early writers believed that the bile pigments were the toxic element in bile. Notable among these were Frerichs,[8] Bouchard,[9] de Bruin [10] and Plaesterer.[11] An experimental study by King and Stewart [12] would lend credence to the same belief. Among the early writers on this subject, Rohrig,[13] Feltz and Ritter,[14] Leyden [15] and Rywosch [16] were of the opinion that the bile acids were responsible for the toxic action of bile. The exhaustive investigations of Stadelmann [17] and Bickel [18] gave tenable support to the latter contention.

3. Wangensteen, O. H.: Cholangeitis Following Cholecystenterostomy, Ann. Surg. **87**: 54 (Jan.) 1928.
4. Thomson, in Allbutt and Rolleston: System of Medicine **4**, part 1, p. 103, 1908.
5. Hertz, J.: Wie lange kann ein Mensch leben bei volligen Verschluss der Gallenwege nach dem Darm? Berl. klin. Wchnschr. **4**: 76-77, 91-92, 1877.
6. Haberer, Hans.: Experimentelle Unterbindung der Leber-Arteris, Arch. f. klin. Chir. **78**: 557-587, 1906. Kehr, Hans.: Chirurgie der Gallenwege, Neue deutsche Chirurgie **8**: 150-155, 1913.
7. Mann, F. C., quoted by Mason, E. C., and Davidson, E. C.: A Study of Tissue Antolysis in Vivo: I. Blood Changes, Physical and Chemical, J. Lab. & Clin. Med. **10**: 622 (May) 1925. Wangensteen, O. H., and Waldron, G.: Studies in Intestinal Obstruction: IV. Strangulation Obstruction: A Study of the Autolysis of Tissue in Vivo and in Vitro, Arch. Surg., to be published.
8. Frerichs, F. T.: A Clinical Treatise on Diseases of the Liver, translated by Charles Murchison **1**: 66-73, 1879.
9. Bouchard, Charles: Leçons sur les autointoxicationes dans les maladies, Paris, 1887, p. 242.
10. De Bruin, quoted by Stadelmann (footnote 17, second reference).
11. Plaesterer, R.: Ueber die giftigen Wirkungen des Bilirubins, Inaug. Diss., Würzburg, 1890.
12. King, J. H., and Stewart, H. A.: Effect of the Injection of Bile on the Circulation, J. Exper. Med. **11**: 673, 1909.
13. Rohrig: Arch. d. Heilk., 1863, quoted by Stadelmann (footnote 17, second reference).
14. Feltz, V., and Ritter, E.: Action dels sels biliares sur l'economie, J. de l'anat. et de la physiol. **10**: 561, 1874.
15. Leyden: Pathologie des Icterus, Berlin, 1866.
16. Rywosch, D.: Ueber die giftige Wirkung der Gallensäuren nebst einen Anhange über die Giftigkeit der Gallenfarbstoffe, Inaug. Diss., Dorpat, 1891.
17. Stadelmann, E.: Der Icterus und seine verschiedenen Formen, nebst Beitragen zur Physiologie und Pathologie der Gallensecretion, Stuttgart, 1891; Ueber den Kreislauf der Galle im Organismus, Ztschr. f. Biol. **18**: 1-64, 1896.
18. Bickel, A.: Experimentelle Untersuchungen über die Pathogenese der Cholaemie, Wiesbaden, 1900.

Biedl and Krause,[19] in reviewing the toxic effects of bile, state that bile acids are strongly hemolytic for blood. In sufficient concentration, they cause a coagulation of myosin to such a degree that muscle loses its contractility. When they are applied to a motor nerve, convulsive movements of the innervated muscles may be elicited. If introduced intravenously, a slowing of the pulse with a fall in arterial blood pressure occurs. After toxic intravenous doses, a comatose state, convulsive seizures and death are the usual sequence.

The normal daily output of bile acids, according to Weintraud[20] and to Biedl and Krause,[19] is about 8 to 11 Gm. a day. In patients with marked icterus due to retention of the biliary constituents, the presence of bile salts in the blood and urine has been demonstrated only with difficulty. Hoppe-Seyler[21] used 30 liters of urine from a jaundiced patient to get a qualitative test for bile acids. In a patient with marked icterus, Bischoff[22] could find only 0.34 Gm. of bile acids in a twenty-four hour specimen of urine. Intravenous injections of bile salts by Huppert,[23] Leyden[24] and Hoppe-Seyler[24] have shown that only a minor portion of the injected amount is excreted in the urine. Bischoff[22] believed that the bile acids disappear in the blood stream during jaundice. Weintraud[20] has suggested that the liver stops forming them in prolonged icterus. Brakefield and Schmidt[25] have recently reported quantitative determinations of bile and excretion in experimental obstructive jaundice in dogs. Their presence was constantly detected in the urine of dogs with a severed common bile duct, but gradually the excretion of bile acid sank to a very low level.

It is known that, when a complete external biliary fistula exists, the bile acid excretion quickly diminishes.[17] Stadelmann[26] has found, however, that when bile salts are fed to such animals the bile acids are excreted to two thirds of the injected amount through the biliary fistula within ten to twelve hours.

These facts led Stadelmann[26] to postulate a circulation of the bile acids in the organism. They are excreted through the liver, absorbed from the upper intestine largely by way of the thoracic duct, he believes, and then reexcreted through the liver.

In dogs and rabbits with a severed common bile duct such that all the bile escapes into the peritoneal cavity, I[27] have been able to demonstrate that the animals quickly succumb to the toxic action of the bile absorbed from the peritoneal cavity. The majority of patients with a severed common bile duct, however, usually live from five to six weeks and often more with the bile escaping into the free peritoneal space, even when the defect is not repaired or the bile removed. The quicker death in the dog, as I have suggested, is due to the more toxic taurocholic acid, which largely constitutes the bile acids in dog bile, whereas human bile contains relatively more of the less toxic glycocholic acid.

If Stadelmann had contended that the circulation of bile salts was completed through the portal vein instead of the thoracic duct, it would be a reasonable assumption that any exclusion of bile from the intestine would be associated with a diminished bile acid production. Through the failure of the bile to reach the intestine, the patient with occlusion of the common bile duct probably escapes an early death which would obtain if from 8 to 11 Gm. of bile acids were allowed to accumulate in the blood each day and were excreted in the urine in only minimal amounts.

It would appear, therefore, that in cases of total occlusion of the common bile duct, when intoxicative symptoms arise some time following the onset of jaundice, a bile acid intoxication is not the main issue. The destruction of liver tissue occasioned by the prolonged stagnation of bile would seem to be the more immediate etiologic factor in the precipitation of a severe intoxication. What relation an insufficiency of liver plays in this terminal picture of mechanical obstruction to the bile flow is also not clear.

In their epoch-making studies on the physiology of the liver, Mann and his associates at the Mayo Clinic have thrown a flood of light on the manifold functions of this indispensable organ. The great reserve and regenerative power of the liver has ever been an obstacle to the experimental determination of how much liver tissue was necessary to maintain life. Mann and Bollman,[28] after establishing an Eck fistula in dogs to preclude the regeneration of any considerable amount of liver tissue and subsequently excising large amounts of hepatic tissue, were unable to distinguish, by the ordinary functional tests for liver injury, a normal animal from one in which only 15 per cent of liver tissue remained.

One naturally concludes that the present liver function tests are not of much value. But at the same time it is clearly indicated that the amount of normal liver tissue necessary to sustain life is not great.

Dogs ordinarily stand complete biliary obstruction well for from three to four weeks. After this interval, however, they usually emaciate rapidly and exhibit many of the toxic phenomena seen terminally in patients with common duct occlusion. The ascites consequent on the biliary cirrhosis is also seen in these animals. Haberland[29] aspirated from the abdomen of a dog in which the common bile duct had previously been obstructed 2.5 liters of fluid three times during the last week that the animal lived. He found that dogs usually survived from forty to sixty-five days after complete severance and occlusion of the common bile duct.

In smaller animals, such as the rabbit and the guinea-pig, the length of survival after obstruction of the choledochus is much shorter. In a number of experiments performed by Pick[30] and Steinhaus[31] on rabbits and guinea-pigs in which common bile duct obstruction was established, a large number succumbed within the first few days. Gerhardt[32] obstructed the common bile duct in thirty-six rabbits, of which more than half died in three days, and only rarely did one live longer than ten days. One survived thirty-two days and died in convulsions. Steinhaus[31] was able to have only one guinea-pig survive common duct obstruction for ten days. Haberland[29] had a cat survive complete occlu-

19. Biedl, A., and Krause, R.: Ueber eine bisher unbekannte toxische Wirkung der Gallensäuren auf das Centralnervensystem, Zentralbl. f. inn. Med. **19:** 1185-1199, 1898.
20. Weintraud, W.: Krankheiten der Leber, in von Noorden's Handbuch der Pathologie des Stoffwechsels **1:** 74-782, 1893.
21. Hoppe-Seyler, Felix: Ueber die Anwesenheit von Gallensäuren im icterischen Harne und die Bildung des Gallenfarbstoffes, Virchows Arch. f. path. Anat. **24:** 1, 1862.
22. Bischoff, in Henle und Pfeufer's Ztschr. f. rat. Med. **21,** quoted by Stadelmann (footnote 17, second reference).
23. Huppert, quoted by Stadelmann (footnote 17, second reference).
24. Cited by Stadelmann (footnote 17, second reference).
25. Brakefield, J. L., and Schmidt, C. L. A.: Studies on the Synthesis and Elimination of Certain Bile Components in Obstructive Jaundice, J. Biol. Chem. **67:** 523-545 (Feb.) 1926.
26. Stadelmann (footnote 17, second reference).
27. Wangensteen, O. H.: On the Significance of the Escape of Sterile Bile into the Peritoneal Cavity, Ann. Surg. **84:** 691-702 (Nov.) 1926.
28. Mann, F. C., and Bollman, J. L.: Am. J. Physiol. **76:** 179, 1926.
29. Haberland, H. F. O.: Studien an den Gallenwegen: IV. Die Beziehungen des Ductus Choledochus Verschlusses zum Icterus, Arch. f. klin. Chir. **135:** 248-280, 1925.
30. Pick, E.: Zur Kentniss der Leberveränderungen nach Unterbindung des Ductus Choledochus, Ztschr. f. Heilk. **11:** 117-128, 1890.
31. Steinhaus, J.: Ueber die Folgen des dauernden Verschlusses des Ductus Choledochus, Arch. f. exper. Path. u. Pharmakol. **28:** 432-449, 1891.
32. Gerhardt, D.: Ueber Leberveränderungen nach Gallengangsunterbindung, Arch. f. exper. Path. u. Pharmakol. **30:** 1-20, 1892.

sion of the choledochus for forty-two days, a rabbit for thirty-four and a guinea-pig, rat and mouse, respectively, for sixteen, twenty-three and nine days. In none of these animals was ascites observed—a regular finding at necropsy in the dogs with obstructed bile ducts.

Tsunoda [33] ligated the common bile duct in a number of rabbits and dogs. In the animals in which a complete obstruction was established, the animals succumbed in the usual interval observed by other experimenters. When an incomplete obstruction resulted, the period of survival was usually much longer. One dog survived the procedure for twenty-four months, and at necropsy presented an almost impermeable stricture of the duct.

In the animals in which the period of survival was short, the livers were larger than normal and of a soft consistency.[33] The liver surfaces were smooth. In those that lived for a considerable length of time and in which the biliary obstruction was incomplete, the livers were shrunken and quite firm with sharp edges and wrinkled surfaces. In the first group, necrosis of the liver parenchyma was the usual histologic finding; in the latter, connective tissue replacement of the liver cells and new formation of bile capillaries was the condition noted.

Judd and Counseller [34] have recently emphasized the greater dilatation of the duct system of the liver in complete common duct obstructions.

In the case reported by Treves [2] as well as in the one reported by me, the block in the common bile duct was in the nature of a stricture. Even though complete biliary obstruction was present in both instances for a considerable length of time, it is probable that the occlusion developed gradually. In a liver in which a good deal of the parenchyma has already been replaced by fibrous tissue it is reasonable to assume that complete biliary obstruction will not give rise to the same tissue destruction that obtains in a normal liver. Patients in whose livers such a process exists probably tolerate obstruction of the bile flow for a much longer period.

SUMMARY

A patient continued in fairly good health for more than three and a half years with a most profound jaundice of mechanical origin. She died following an operation at which no extrahepatic bile ducts could be found. Necropsy demonstrated complete obliteration of the ducts.

In an instance reported by the late Sir Frederick Treves, a patient, severely icteric, survived cholecystenterostomy for an impermeable stricture in the terminal end of the common bile duct of sixteen years' duration. Most patients with occlusion of the common bile duct stand biliary obstruction well for a few months, and then suddenly manifest symptoms of a severe intoxication to which they succumb. It is suggested that the gradual development of the occlusion permits of patients tolerating destruction of the liver tissue in a degree not observed in patients that succumb to obstructive jaundice of shorter duration. The destruction of liver tissue per se, together with the diminution of liver function occasioned by the obstruction to the bile flow, would appear to be responsible for the cholemic symptoms that such patients exhibit rather than the retention of toxic constituents of bile in the blood stream and tissues.

33. Tsunoda, T.: Eine experimentelle Studie über die Folgen der Stenose oder Obliteration des Ductus Choledochus, Virchows Arch. f. path. Anat. **193**: 213-238, 1900.

34. Judd, E. S., and Counseller, V. S.: The Effect of Obstructive Lesions of the Common Duct of the Liver, J. A. M. A. **89**: 1751-1756 (Nov. 19) 1927.

CANADIAN FISH, A SOURCE OF THE BROAD TAPEWORM OF MAN IN THE UNITED STATES*

TEUNIS VERGEER
ANN ARBOR, MICH.

In a recent paper [1] the presence of plerocercoids of *Diphyllobothrium latum* was reported in the following four species of food fishes taken from Lake Superior and Portage Lake, in the Upper Peninsula of Michigan: *Stizostedeon canadense-griseum* De Kay, *Stizostedeon vitreum* Mitch., *Esox lucius* L., and *Lota maculosa* Le Sueur. Magath [2] reported that he had raised *D. latum* from the plerocercoids taken from *Esox lucius*, Long Lake, Minn. Thus it has been proved that at least four species of food fishes serve as second intermediate hosts of *D. latum*. Essex [3] raised coracidia from eggs collected from the stools of patients and with them he experimentally infected *Cyclops brevispinosus, C. prasinus* and *Diaptomus oregonensis*, thus demonstrating that all these native species of copepods are capable of serving as first intermediate hosts. Although he did not obtain any naturally infested copepods from the waters of the region in which he worked, it is probably safe to assume that at least one, and perhaps all of these, is a natural first intermediate host of *D. latum*. Thus the major problems of the life history of this important human parasite in the United States have been solved. There is left unsolved, however, the very important problem of the actual source of human infestation outside the known endemic areas in northern Michigan and northern Minnesota.

It is highly improbable that fish from these known endemic areas play any important part in the dissemination of this parasite in the United States. At most an extremely small percentage of *Stizostedeon* and *Esox* consumed in the United States come from Lake Superior near Portage Lake, while *Esox lucius* from the endemic area (two small lakes) in Minnesota, as reported by Magath, is not taken commercially because of legal restrictions. In my previous paper,[4] evidence was presented to show that the Great Lakes probably are not an important source of infested fish. In that paper I also stated that according to the report of the United States Tariff Commission [5] large quantities of fresh, frozen, salted and smoked fish are imported from the fresh waters of Canada. The most important sources of these fish are Lake Winnipeg (the largest of commercial importance), Lake Manitoba, Lake of the Woods and Lake Winnepegosis. In 1924, the last year for which data are available, the commission found that during the period 1919-1924 an average of 7,156,395 pounds of yellow pike or wall-eye, *Stizostedeon vitreum*, was annually imported into the United States (p. 52). This is 73.4 per cent of the total consumption of this species in the United States. Nearly all these fish were caught in the Canadian lakes mentioned, and most of them were shipped fresh, freezing having been prevented during the winter because the Jewish trade in

* From the Department of Zoology of the University of Michigan. This is one of a series of investigations carried on under grant 96 awarded to Profs. George R. La Rue and A. S. Warthin by the Committee on Scientific Research of the American Medical Association.

1. Vergeer, Teunis: Diphyllobothrium Latum (Linn., 1758), the Broad Tapeworm of Man: Experimental Studies, J. A. M. A. **90**: 673-678 (March 3) 1928.

2. Magath, T. B.: Experimental Studies on Diphyllobothrium Latum, Minnesota Med. **10**: 614-616 (Oct.) 1927.

3. Essex, H. E.: Early Development of Diphyllobothrium Latum in Northern Minnesota, J. Parasitol. **14**: 106-109 (Dec.) 1927.

4. Vergeer: THE JOURNAL, March 3, 1928, p. 677.

5. United States Tariff Commission: Lake Fish, Tariff Information Series number 36, 1927.

the United States is willing to pay a premium for fresh wall-eyes (p. 53). I then stated that, in connection with these data, the observations of physicians in regard to the large number of cases of infestation with *D. latum* among the Jews become significant, and that examination of imported Canadian fish for plerocercoids of *D. latum* is important and necessary.

Through the courtesy of one of the leading importers of unfrozen fish, I received on March 8 a shipment of twenty-seven wall-eyes (*Stizostedeon vitreum*) taken from Lake Winnipeg, Canada. The flesh and the viscera of these fish were carefully examined for the plerocercoids of *D. latum*. None were found in or among the viscera, but a single plerocercoid was taken from the flesh of each of five fish. One plerocercoid was cut in pieces during removal but the other four were uninjured and immediately recognized as plerocercoids of *D. latum*, a description of which was given in the previous report.[6] These were fed, on March 11, to a dog [7] which by repeated fecal examinations proved to be free from *Diphyllobothrium* tapeworms. Fish from other Canadian lakes will be examined as soon as possible.

While it is admitted that the number of Canadian fish examined for plerocercoids is too small, and that the knowledge concerning the distribution of infested fish is too meager to permit of safe generalization, the observations reported in this paper indicate that the eating of infested fish imported from Canada may be responsible for a large percentage of the cases of *D. latum* infestation in the United States outside the known endemic areas.

CEREBROSPINAL FLUID PRESSURE IN THE NEW-BORN *

DONALD MUNRO, M.D.
BOSTON

The data relative to cerebrospinal fluid pressure in the new-born presented in this paper have been accumulated during the past seven years. They have been compiled from a series of 117 cases of cranial and intracranial injury. Fifty-six of the babies included in this series died while in the hospital. Of these, forty-five came to autopsy, the postmortem material being subjected to both gross and microscopic examination in twenty-three instances. Fifty-eight patients were discharged relieved. Of these, forty-eight were followed for from less than six months to more than six years. Three were duplicate entries. A detailed study of the end-results in these cases has been presented before the Southern Surgical Association [1] and need not be considered further at this time.

METHODS OF MEASUREMENT

Measurements of cerebrospinal fluid pressure were made during ventricular and lumbar punctures. A mercury manometer was used in every instance. The lowest figure read on the scale with the infant lying quietly on its side with the spine extended was taken as the maximum reading. The puncture was considered successful when respiratory oscillations were visible in the manometer, whether or not cerebrospinal fluid was obtainable.

Six ventricular punctures were made in four cases, the measurements being recorded three times. Two of these three punctures were done in a case of meningitis and cannot properly be included in this study. The remaining showed an intraventricular pressure of 50 mm. This was reduced to normal by the withdrawal of 90 cc. of bloody cerebrospinal fluid. The child is now 6 years and 1 month of age and, except for a residual sixth nerve palsy, is normal in every way.

TABLE 1.—*Methods of Treatment Other Than Lumbar Puncture*

	Living	Dead	Total
Ventricular Puncture: Pressure Data			
Number of cases in which puncture was done	2	2	4
Number of punctures made	2	4	6
Number of measurements taken	1	2	3
Highest pressure read	50 mm.	20 mm.	
Lowest pressure read	....	20 mm.	
Unsuccessful punctures	0	0	0
Pressure not recorded	1	2	3
Ventricular Puncture: C. S. F. Data			
Bloody cerebrospinal fluid			
Greatest amount	90 cc.	¼ cc.	
Smallest amount	2 cc.	¼ cc.	
Number of amounts measured	2	1	3
Purulent cerebrospinal fluid			
Greatest amount	....	90 cc.	
Smallest amount	....	30 cc.	
Number of amounts measured	....	3	3
Typical subtemporal decompression	1	1	2
Elevation of depressed fracture	4	..	4
Intubation under wrong diagnosis before admission	..	1	
Intraventricular administration of antimeningococcus serum	..	1	1

One hundred and forty-nine lumbar punctures were made in ninety-five cases, 139 measurements being recorded.

NORMAL PRESSURE

Sidbury,[2] in 1920, stated that the normal pressure in the new-born will probably lie between 5 and 2 mm. of mercury. On the basis of pressures recorded at discharge in babies treated for intracranial injury and rendered symptom free by lumbar punctures, I have placed the limits as between 6 and 2 mm. of mercury.

There were thirty-five such cases. In addition, the measurements of twenty patients who died came within this pressure field at the final lumbar puncture. Thus, fifty-five showed a normal cerebrospinal fluid pressure at the final measurement before death or discharge. Sixteen cases, under the same conditions, showed a pressure of more than 6 mm. of mercury. The average figure in the latter was about three times that of the former.

The most significant finding, however, whether considered in the light of the determinations of the normal limits of intracranial pressure or in that of the efficiency of the treatment given is in the "death and disease percentage" as revealed in the follow-up. In the patients discharged relieved but with an intracranial pressure known to be above 6 mm., this percentage was 37.5 from "all causes" and 25 from "known cerebral causes only." In those discharged with normal pressure, the corresponding percentages were 11.4 and 5.8.

DECREASED PRESSURE

Decreased cerebrospinal fluid pressure, that is, pressure below 2 mm. of mercury and frequently present as respiratory oscillations only, occurred in eleven

6. Vergeer: THE JOURNAL, March 3, 1928, p. 675.

7. Since this article went to press, another shipment of twenty wall-eyes from Lake Winnipeg has been examined, and from these one plerocercoid has been removed and has been fed to a second clean dog. Four adult D. latum tapeworms have since been recovered from the first dog and one from the second.

* Read before the Association for Research in Nervous and Mental Disease, New York, Dec. 28, 1927.

1. Munro, Donald: Cranial and Intracranial Damage in the New-Born, to be published.

2. Sidbury, J. B.: The Importance of Lumbar Puncture in Intracranial Hemorrhage of the New-Born: Report of Case with Recovery, Arch. Pediat. **37**: 545 (Sept.) 1920.

patients. Six of these were discharged relieved and five dead. In my experience this condition has been associated only with surgical shock or extreme dehydration. The number is too small to warrant the drawing of any conclusions and, in any event, what figures there are should never have been available, since lumbar punctures should not be performed under such circumstances. If made through diagnostic error, however, the information obtained is of use as pointing to a grave prognosis.

INCREASED PRESSURE

In the absence of surgical shock and dehydration, increased intracranial pressure has been demonstrated at least once previous to discharge in this series in every case of depressed fracture, intracranial hemorrhage from whatever cause, cerebral edema or cerebral congestion. However, to eliminate possible error, all original pressure measurements except those listed in table 2, whether increased, decreased or normal, have been included under this heading.

It is interesting to note that the variation between living and dead patients, whether considered as the highest, lowest or average pressure, is insignificant. This is not in accord with figures that I [3] obtained in a series of head injuries in adults, although from a broad point of view the pathologic changes are analogous. In the adult cases the average pressure in those terminating fatally was two and one-half times higher than in the nonfatal cases. I am unable to offer a satisfactory explanation for this difference.

REDUCTION OF PRESSURE BY REMOVAL OF CEREBROSPINAL FLUID

In the presence of increased intracranial pressure, sufficient fluid has been removed to bring the pressure level to within the limits set as normal. This was done 135 times. The amounts were measured eighty-one times. Clear fluid was never found and measured in

TABLE 2.—*Normal and Decreased Intracranial Pressure*

Classifications	Total	Dead	Living
Decreased intracranial pressure (below 2 mm. of mercury)			
Number of cases	11	5	6
Normal intracranial pressure (from 6 to 2mm. of mercury, inclusive)			
Number of patients discharged symptom free or dead	55	20	35
Intracranial pressure over 6 mm. of mercury			
Number of patients discharged symptom free or dead	16	8	8
All cases: living, 43; dead, 28			
Highest intracranial pressure on discharge		18 mm.	10 mm.
Lowest intracranial pressure on discharge		1 mm.	2 mm.
Average intracranial pressure		5.07 mm.	4.56 mm.
Dead or diseased in follow-up from all causes			3.57%
Cases with 6 mm. to 2 mm. pressure: living, 35; dead, 20			
Average intracranial pressure on discharge		3.2 mm.	3.68 mm.
Dead or diseased in follow-up from all causes			11.42%
Cases with over 6 mm. pressure: living, 8; dead, 8			
Average intracranial pressure on discharge		9.75 mm.	8.37 mm.
Dead or diseased in follow-up from all causes			37.5%
Diseases and death percentages in follow-up			
All causes			
Cases with pressure of 6 mm. or under			11.42%
Cases with pressure of over 6 mm			37.5%
Known cerebral cause			
Cases with pressure of 6 mm. or under			5.8%
Cases with pressure of over 6 mm			25.0%

a fatal case. The presence of blood in the removed cerebrospinal fluid cannot be considered pathognomonic of an intracranial hemorrhage, although if followed at a later puncture by the removal of yellow fluid it is certainly suggestive. In an average case it was necessary to remove more than twice as much fluid in the living as in the dead before increased cerebrospinal fluid pressure could be brought to normal.

It was deemed inadvisable to remove any fluid fourteen times. This was chiefly because, in the earlier cases, it was considered unsafe, and ventricular drainage was instituted or subtemporal decompression was performed when the original pressure was 20 mm. or more. Later experience has shown that this precaution was unnecessary.

TABLE 3.—*Lumbar Puncture Data*

Pressure Data	Living	Dead	Totals
Number of cases in which puncture was done	56	39	95
Number of punctures made	99	50	149
Number of measurements taken	91	48	139
Highest pressure read (mm. of mercury)	50 mm.	48 mm.	
Lowest pressure read (mm. of mercury)	Less than 1 mm.	Less than 1 mm.	
Average pressure readng (mm. of mercury)	10.9 mm.	11.1 mm.	
Cerebrospinal Fluid Data			
Bloody cerebrospinal fluid: total punctures living, 57; dead, 31			
Greatest amount	19 cc.	10 cc.	
Smallest amount	¼ cc.	½ cc.	
Average amount	4.2 cc.	3.7 cc.	
Number of amounts measured	20	22	42
Clear crerebrospinal fluid: total punctures living, 12; dead, 1			
Greatest amount	25 cc.		
Smallest amount	¼ cc.		
Average amount	10.96 cc.		
Number of amounts measured	7	0	7
Yellow cerebrospinal fluid: total punctures living, 24; dead, 10			
Greatest amount	17 cc.	4 cc.	
Smallest amount	½ cc.	½ cc.	
Average amount	6.9 cc.	3.75 cc.	
Number of amounts measured	18	6	24
Contaminated bloody cerebrospinal fluid: total punctures—living, 16; dead, 4			
Greatest amount	3 cc.	1½ cc.	
Smallest amount	½ cc.	1½ cc.	
Average amount	1.11 cc.	1½ cc.	
Number of amount measured	7	1	8
No fluid removed	10 punctures	4 punctures	14
Combined Cerebrospinal Fluid Data			
Greatest amount	25 cc. yellow	10 cc. bloody	
Smallest amount	¼ cc. bloody or clear	½ cc. bloody	
Average amount	5.542 cc.	2.485 cc.	

CONCLUSIONS

Measurements of the cerebrospinal fluid pressure were made 142 times in ninety-five new-born babies. Of these, 139 were made at lumbar puncture and the remaining three were made at ventricular puncture.

Normal cerebrospinal fluid pressure in the new-born, as determined from figures obtained from patients treated for cranial and intracranial injury and discharged symptom free, lies between 6 and 2 mm. of mercury.

Cerebrospinal fluid pressure below 2 mm. of mercury has occurred in this series only in the presence of surgical shock or dehydration.

Increased cerebrospinal fluid pressure has been present in every case of depressed fracture, intracranial hemorrhage, cerebral edema or cerebral congestion.

Intracranial hypertension in cranial and intracranial injury in the new-born may be safely reduced to normal by lumbar decompression regardless of the degree.

Patients discharged as relieved and symptom free with a known cerebrospinal fluid pressure of between 6 and 2 mm. of mercury show a late death and disease percentage of 11.4 from all causes, and of 5.8 from known cerebral causes only.

Patients discharged as relieved and symptom free with a known cerebrospinal fluid pressure of more than 6 mm. of mercury show a late death and disease percentage of 37.5 from all causes and of 25 from known cerebral causes only.

15 Bay State Road.

3. Munro, Donald: The Therapeutic Value of Lumbar Puncture in the Treatment of Cranial and Intracranial Injury, Boston M. & S. J. 193: 1187-1189 (Dec. 24) 1925.

OPERABILITY IN CANCER

STATISTICAL STUDY OF ONE THOUSAND CASES*

BENJAMIN RICE SHORE, M.D.
NEW YORK

The rising recorded death rate from cancer is a definite evidence that treatment of the disease is as yet very defective. Granted that this increase in the death rate is largely due to improved diagnosis, it would seem reasonable to assume that such improvement in diagnosis should detect a larger number of operable cases and thus afford better material for treatment. Obviously, this is not the case. On the other hand, statistical studies of large series of treated patients are now available showing very good results in certain types of cancer, such as those of the skin, breast, uterus and lip; yet the death rates in these favorable sites are not falling. Is this due to incompetent treatment by the physicians of the country or to the fact that the material is hopeless from the start? Are not the favorable statistical collections from selected groups of patients, and are they a true index of the whole situation? What can be said to be the true operability of cancer as it occurs in an intelligent community?

TABLE 1.—*Patients Receiving No Surgical Treatment in the Total Series of One Thousand*

	Cases
Declined admission in the examining room	62
Inoperable cases in the medical wards	138
Inoperable cases in the surgical wards	161
Patients refusing operation	7
Total	368

My purpose in this paper is to investigate one phase of the situation by studying the operability of 1,000 consecutive cases of malignant disease treated in the period from July 1, 1923, to Jan. 1, 1927, in St. Luke's Hospital. The final results of the treatment can obviously not be studied in so recent a series.

TABLE 2.—*Patients Declined in the Examining Room*

	Cases
Carcinoma of the stomach	6
Carcinoma of the esophagus	4
Carcinoma of the rectum	5
Carcinoma of the corpus uteri	3
Carcinoma of the cervix uteri	7
General abdominal carcinoma (source unknown)	4
Carcinoma of ovaries	1
Carcinoma of liver	6
Carcinoma of bladder	1
Carcinoma of prostate	3
Carcinoma of bronchi, lungs and pleura	3
Carcinoma of breast	4
Carcinoma of kidney	1
Carcinoma of larynx and pharynx	2
Sarcoma of bones	3
Sarcoma of fascia	1
Generalized carcinoma of unknown source	8
Total	62

By operability is meant the possibility of mechanical removal of the malignant process, so far as the eradication of the disease is concerned. The majority of the patients came to the examining room or outpatient department of the hospital seeking relief for definite symptoms, while the smaller number were referred to the hospital from physicians' offices. No attempt has been made to separate the patients of the private pavilion from those of the wards. Any patients who had previously been treated for malignant disease were eliminated from this study. Thus sixty-eight patients with recurrent carcinoma and sarcoma who were treated in the hospital during the time outlined are excluded.

This hospital cares for general medical and surgical cases, as well as for those of the specialties of eye, ear, nose, throat and orthopedics. It is therefore considered to be representative of the larger metropolitan hospitals, and the types and stages of malignant disease summarized are believed to be a cross section of cancer as seen by the average physician in general practice.

The greater number of the diagnoses have been microscopically checked after such surgical procedures as excision, biopsy or simple exploration. All cases have been excluded in which there is a reasonable doubt as to the exact nature of the disease.

The first patients to consider are the sixty-two, or 6.20 per cent of the 1,000 who were refused admission to the hospital by the examining physician because of the fact that their malignant condition was too far advanced for hope of cure. The word "cure" as used in this paper does not mean an absolute cure but a freedom from all clinical symptoms for at least three years. Nothing can be learned from the records in the examining room as to the duration of the illness in these patients, and in none of these was the diagnosis confirmed. A few of these patients were referred to other institutions for radium treatment, while the remainder were either sent home or were turned over to the social service for hospitalization elsewhere. Table 2 indicates the types of malignant conditions in which admission was refused on these grounds.

TABLE 3.—*Patients Refusing Operation*

	Cases
Sarcoma of breast (biopsy only)	1
Carcinoma of stomach	1
Carcinoma of sigmoid	2
Carcinoma of rectum	1
Carcinoma of head of pancreas	1
Carcinoma of liver	1
Total	7

The next group is made up of the patients who were admitted to the hospital for treatment but who were considered not suitable for operation after a careful study of their condition had been made. These number 306, or 30.60 per cent of the total. Of these, 138 were cared for in the medical wards and 161 in the surgical wards. Of the entire number, only seven refused operation. These are included with the inoperable cases. Table 3 shows the nature of these cases.

The third group of cases comprises those treated surgically, a total of 632, or 63.20 per cent of the 1,000. All surgical procedures, except the taking of a biopsy for diagnosis, are included. Of the 632 patients, 225 were operated on for palliative reasons and eighty-seven were submitted to purely exploratory operations.

The palliative operations include gastro-enterostomies for carcinoma of the stomach, gastrostomies for esophageal growths, colostomies in inoperable colonic obstructions, and all partial excisions of growths or their metastases which in any way could add to the comfort of the patient. The follow-up records on these patients are very incomplete. A few of the patients are known to have gained weight and lived comfortably for a few months, while others have steadily lost weight and strength and have died in as short a time as they probably would have without surgery.

The striking examples of the good of palliative surgery are seen in the cases of carcinoma of the breast

* From the Pathological Laboratory, St. Luke's Hospital.

which at the time of operation are known to be too far advanced for the hope of a cure. Surgery in these cases does not alter the death rate from carcinoma, but it does make the last months of a patient's life more bearable and comfortable. It rids her of a large and often heavy and painful breast, which, when it goes on to ulceration, becomes one of the most offensive and difficult of wounds to care for. Roentgen-ray treatment alone can do little for these ulcerations, but roentgen-ray treatment after surgical removal can prevent to a large extent local recurrences. The cases of carcinoma of the breast in this series in which operation was not performed are those in which lung or bone metastases were present and the probable duration of life without any surgery was considered very short.

TABLE 4.—*Patients Receiving Surgical Treatment*

	Cases
Operations for a cure	320
Operations for palliative reasons	225
Purely exploratory operations	87
Total	632

A total of eighty-seven patients were submitted to operations which at the time were found to be useless procedures except from the standpoint of arriving at an accurate diagnosis. These patients were simply given the benefit of the doubt, which was all that could be done. Most of these operations were exploratory laparotomies for advanced and inoperable intra-abdominal growths.

The remaining 320, or 32 per cent, of the total 1,000 cases were at the time of operation considered operable from the standpoint of eradicating the disease. The operative records have been gone over and only those cases are excluded in which specific mention is made of the inability to remove the entire growth. A similar study of the operability of a somewhat smaller number of cancer cases was made several years ago by Dr. F. C. Wood at St. Luke's Hospital. His figures were not based so much on the histories and operative records, but were compiled from answers to questionnaires sent to the operating surgeon in each case. None of the same patients are included in the two series. Wood found that of 748 patients with cancer, only 135, or 21.8 per cent of the growths were considered mechanically removable by the surgeon at the time of operation. Many of these opinions were given after a lapse of considerable time following the operation, and are therefore probably greatly influenced by the subsequent history of the patient.

A considerable number of these so-called operable tumors in my own series are known from their rapid recurrences to have metastasized or to have grown beyond the operative field, but all of these have been included in the operable group because at the time of operation they appeared to have the possibility of complete removal. Therefore the figures here given are well within those of the actual facts.

Of the 320 patients operated on with the idea of a cure by the surgeon, twenty-six, or 8.11 per cent, died in the hospital as the immediate result of the operation, leaving only 29.40 per cent of the total 1,000 patients who left the hospital with any assurance that the malignant process had all been removed. These are indeed discouraging figures on the surgical treatment of cancer.

A more vivid picture may be obtained by studying the tumors in a few of the sites where they occur most frequently. In this series there are 134 cases of carcinoma of the stomach. Of these, twenty-two, or 16.41 per cent, were at the time of operation considered operable; in twenty, or 14.92 per cent, palliative operations were performed, and in thirty-two, or 23.88 per cent, only exploratory operations were performed. This leaves sixty, or 44.79 per cent, which were considered inoperable and were not submitted to any surgery. Of the twenty-two patients operated on in the hope of effecting a cure, nine, or 40.90 per cent, died as a result of the operation, leaving only thirteen, or 9.73 per cent, of the original 134 who left the hospital with any hope of cure.

It was found impossible to separate the tumors of the cecum and ascending colon from those of the descending colon and sigmoid, so all the growths of the large intestine, excluding the rectum, are included in one group. These cases number sixty-five. Of these, twenty-seven growths, or 41.53 per cent, were resected for a cure; twenty-one patients, or 37.28 per cent, had palliative operations, five, or 7.69 per cent, had exploratory laparotomies, and the remaining twelve cases, or 18.48 per cent, were too far advanced for any sort of surgery. Of the twenty-seven patients who were considered suitable for operation, ten, or 37.03 per cent, died as the result of the operation, leaving seventeen, or 26.15 per cent, of the original sixty-five who left the hospital with the hope of a cure.

TABLE 5.—*Total One Thousand Cases*

	Operations			No Operation				
Site	Operations	Palliative	Exploratory	Declined	Medical	Surgical	Referred	Grand Total
Stomach	22	20	32	6	43	10	1	134
Esophagus	0	13	0	4	5	11	0	33
Jejunum	0	1	0	0	0	0	0	1
Appendix	4	0	0	0	0	0	0	4
Colon	27	21	5	0	5	5	2	65
Rectum	17	22	2	5	5	7	1	59
General abdominal	0	6	11	4	10	7	0	38
Uterus, cervix	15	9	1	7	3	45	0	80
Uterus, corpus	18	2	3	3	2	5	0	33
Ovaries	9	9	11	1	4	0	0	34
Pancreas	0	11	3	0	5	3	1	23
Liver	0	0	6	6	6	2	1	21
Gallbladder and ducts	2	2	5	0	2	0	0	11
Urinary bladder	3	10	1	1	1	10	0	26
Prostate	0	2	1	3	2	10	0	18
Bronchi, lungs, pleura	0	2	0	3	19	0	0	24
Kidney	1	0	3	1	1	5	0	11
Breast	144	67	0	4	10	12	1	238
Tongue	3	1	0	0	0	0	0	4
Tonsil	1	1	0	0	0	1	0	3
Penis	6	0	0	0	0	0	0	6
Thyroid	1	4	0	0	0	0	0	5
Testes	3	1	0	0	0	0	0	4
Larynx and pharynx	0	4	0	2	1	5	0	12
Vulva	3	1	0	0	1	2	0	7
Brain	0	2	0	0	2	1	0	5
Mouth and antrum	1	1	0	0	0	1	0	3
Skin, basal cell	10	0	0	0	0	1	0	11
Skin, squamous	25	1	0	0	0	1	0	27
Skin, melanoma	1	2	1	0	1	0	0	5
Skin, adenocarcinoma	1	0	0	0	0	0	0	1
Suprarenals	0	0	0	0	1	0	0	1
Ureter	0	0	0	0	1	0	0	1
Cervical nodes	0	2	0	0	1	7	0	10
Bones, sarcoma	0	2	1	3	6	6	0	18
Bones, myeloma	0	0	0	0	0	1	0	1
Fascia, sarcoma	3	5	0	1	0	1	0	10
General carcinoma	0	1	1	8	0	2	0	12
General sarcoma	0	0	0	0	1	0	0	1
Totals	320	225	87	62	138	161	7	1,000

Of the fifty-nine cases of rectal carcinoma, 28.64 per cent were considered to be anatomically operable; in 38.98 per cent, operation was performed for palliative reasons; in 3.39 per cent there were exploratory laparotomies, and 30.69 per cent were too far advanced for surgery. In the seventeen operable cases, four

deaths resulted from the operation, leaving thirteen, or 22.03 per cent, of the total fifty-nine.

The figures for the 238 cases of carcinoma of the breast are somewhat more encouraging. This may be due in a large part to the rôle played by the personal equation of the surgeon in separating out the operable cases. A great many cases that were really inoperable are considered as operable because the surgeon at the time of operation made no note that some carcinomatous tissue was not removed. In a great many of these it is known that such was the case because of the rapid local and distant manifestations of the recurrent disease. However, the figures under discussion are not based on follow-up records. Of the 238 cases of cancer of the breast, 144, or 60.50 per cent, were considered to be operable; in sixty-seven, or 28.15 per cent, mastectomies were performed as palliative procedures, and twenty-seven, or 11.35 per cent, were too far advanced for any sort of surgery. Table 5 gives similar figures on neoplasms of the other regions of the body.

CONCLUSIONS

Concerning a study of this sort, the main and perhaps the only thing to be learned is the fact that patients with cancer are in a deplorable state before they are even seen by a physician. In this series, 68 per cent of the cases were inoperable so far as anatomic removal of the growth was concerned. Many more of the remaining group of patients died as the result of recurrences.

What are the reasons for the large number of patients with such advanced carcinomas? In the first place, the very nature of the disease makes its early recognition difficult. It is often symptomless until the growth is so large as to produce mechanical disturbances. Even growths too small to produce symptoms can and do give rise to widespread and fatal metastases. As the refinements of diagnosis increase, this group of cases will gradually be reduced.

In the second place, a far greater number of early cases would be detected if a routine and complete examination were done on all patients at their first visit to a physician. The cases most likely to be detected earlier are those of the skin, buccal mucous membranes, breast, cervix uteri, and rectum. All these growths are palpable and all, excepting those of the breast, can be brought under direct vision. Theoretically, all malignant growths can, in the early stages, be completely and wholly removed. The time to do this is before they produce symptoms, and such growths can be found only by careful and complete physical examinations.

There still remains the responsibility of the patients themselves. It is rare to find a person who is not afraid of the truth, at least so far as cancer is concerned. Aside from not wanting to know the truth, many persons believe that cancer places a certain stigma on the family and, though suspecting the presence of cancer, stay away from a physician as long as possible.

The reasons just given are probably the main ones to account for the fact that in this series the average time elapsing after a patient noticed a lump in her breast and the time that she sought treatment was 350 days—almost a year. Nothing but intensive and widespread education of the public concerning the necessity of routine and complete physical examinations and the urgency of such an examination as soon as any unusual growth or symptoms are noticed can eliminate such negligence in the future.

Amsterdam Avenue and One Hundred and Thirteenth Street.

FACTORS REDUCING MORTALITY IN NITROUS OXIDE-OXYGEN ANESTHESIA*

GEORGE A. HAVEMAN, M.D.
Anesthetist to the Crotti Clinic, White Cross Hospital
COLUMBUS, OHIO.

As the outcome of any operation is determined by various factors and conditions, it follows that fatalities following operations, and particularly deliberate operations, may have been preventable. Among determining factors are: (1) the condition of the patient; (2) the surgical procedure; (3) the measures taken to prevent shock and postoperative complications, and (4) the effect of the anesthetic. With the second of these factors, the surgical procedure, the anesthetist is not directly concerned. Criticism on his part of operative procedure might be presumptuous. That improved surgical technic has greatly lessened mortality is a commonplace observation. However, there is one necessary condition in surgical procedure that the anesthetist may properly stress and that is speed, but speed only when consistent with good work. It stands to reason that, other things being equal, a patient who is on the operating table half an hour is far better off than one who has been under the anesthetic twice as long.

The remaining three factors, as indicated, are of particular interest to the medical man and to the anesthetist. To them the status of the patient is the principal concern and the most important, since high blood pressure, nephritis, diabetes, myocarditis, to mention only a few cracks in the armor of vital organs, may determine the outcome of the risk. Concerning the factors of preventive and expedient measures, the following fundamentals may be indicated: 1. Postoperative pneumonia can be brought to the irreducible minimum by careful examination of the chest. If râles are present, if there is coryza, or even if the patient has the feeling of impending cold, the operation should be canceled. Furthermore, it should be canceled if there is any unexplainable elevation in temperature, however slight. Necessarily, all anesthetic appliances should be sterilized. Unless the rubber bags of gas apparatus are sterilized, they may teem with bacteria. 2. Instead of waiting until the operation is over to overcome dehydration and to restore the water balance, saline or other infusions should be given before the operation. 3. In cardiac insufficiency with ascites and edema, the patient should be digitalized. 4. Acidosis may be prevented by Fischer's solution and dextrose. 5. In cases in which the operation is likely to be prolonged, particularly with a debilitated patient, there is nothing so good as a blood transfusion. We have all seen the desired transformation brought about by blood transfusion following operation. Why not, as a preventive measure, use it more often? 6. The use of insulin will save many a diabetic patient, who formerly would have been a hopeless risk for any surgical procedure. Furthermore, in addition to its use in diabetic patients, insulin is valuable in other cases of physical and nervous debility, with diminished glycogen.

When these six observations are considered, it may be understood that the surgical procedure is by no means the only important factor. That every surgeon should have a medical man prepare his patients for operation and rely on his judgment as to the time and extent of the operation is, I believe, obvious from the foregoing

* Read before the Columbus Academy of Medicine, Dec. 5, 1927.

discussion. Unfortunately, the importance of the factor of the anesthetic in contributing to the success of operations is not sufficiently observed. In dealing with the anesthetic and its contribution toward shock, we may differentiate between anesthetic shock and psychic shock. By anesthetic shock I mean the deleterious effects of those lipoid-solvent inhalation anesthetics ether and chloroform. Of inhalation anesthetics nitrous oxide is the least harmful. In fact, except for its interference with oxidation, it is perfectly safe and harmless. A nonirritating gas, particularly if passed through wash bottles, it is not injurious to the lungs; it does not cause any changes in the blood; it has no effect on the glandular system, and, not being eliminated by the kidneys, it does not affect them. When nitrous oxide causes death, the fatality is always due to oxygen deprivation, asphyxia. Nitrous oxide does not kill suddenly and without warning, since the color of the patient is a sufficient index of safety. If the patient's blood is kept a bright scarlet, there cannot be any danger from nitrous oxide.

Psychic shock is due to powerful influences from the highly specialized centers of the cerebrum acting on the centers of the medulla. There is no difference between prostration by fear and prostration by injury. Nervous shock often endures for months. When the fears of the conscious patient are developed into the terrors of semiconsciousness, it may be readily understood how profound is the shock produced. Often it is not the impending operation that terrifies the patient but the fear of the anesthetic, which produces a psychic shock that may turn the scales toward the side of death. Such psychic shock may readily prove the determining factor in a patient who is also subjected to the physical shock and the loss of blood of an operation. It is a mistake to tell patients the time of the operation, because fear of the anesthetic fills them with apprehension. To avoid this fear the patients should be, whenever it is possible to do so, anesthetized in their rooms. This obviates the necessity of bringing the stretcher into the room and of conveying the conscious patient to the operating table.

The elimination of psychic shock should begin on the day when the patient enters the hospital. He should not be told when the operation is to be performed, but may be made to think that he is in the hospital primarily for observation. This is often done with our goiter patients. It can be done in other cases. Everything which arouses suspicion should be avoided. There should not be any hypodermic on the morning of the operation, but a preliminary hypnotic given by mouth. There should not be any deviation from the morning routine. If the hour set for the operation is early, a delay in bringing the breakfast tray will pass unnoticed. If the hour is late, the patient may have his breakfast. Patients are usually not surprised by all manner of "tests" while in the hospital, so when informed that a "breathing" test is to be made before breakfast or soon after, it means nothing to them. They see nothing alarming in this. Consequently, when somebody familiar to them enters the room with a bag full of oxygen and explains plausibly how they are to breathe the oxygen so that this or that may be ascertained, they are quiet and reassured. The patient is soon back in bed happy that the operation is all over.

But to return to the factor of anesthetic shock for a moment: To have an anesthetic fatality does not demand that the patient should die on the table. Perhaps deaths from anesthesia may be explained by a discovery of Dr. Ramsey, Dr. Crotti's medical associate, that a heart will sometimes dilate while the patient is going under the anesthetic, sometimes remaining dilated and at other times returning to its normal borders. In this connection it is of value to know that, if the anesthetic is started by having the patient breathe pure oxygen and then by adding the nitrous oxide slowly, taking possibly a minute to displace the oxygen, the danger of the heart dilating will be reduced immeasurably. Furthermore, the induction is smoother. This method is directly opposite to the usual technic of starting with full or nearly full gas. May this not throw some light on unexpected postoperative fatalities and also on anesthetic deaths? If it does, they could be avoided by combined auscultation and percussion while the patient is taking the anesthetic. If, during the period of induction, the heart dilates, the operation should be canceled. There is no more striking example of lessened mortality than in the records of thyroid surgery. Among the factors which have caused this steady decline in mortality to an irreducible minimum are the use of iodine as a preliminary to operation, the determining of the metabolic rate and the lessening of psychic shock. The improvement of operative technic, with speed playing an important part, has, of course, done much to lessen mortality. The symptoms of thyrotoxicosis are comparable to the ways the tide comes in on the sea shore: waves, first a small wave, then larger ones, until finally an unusually large wave which may be likened to the exacerbation of the symptoms. Then follow the smaller waves, which are the remissions. Operation during these waves of remission instead of earlier is unquestionably an important reason for the lessened mortality. In such cases, an important guide is the pulse rate. If, after the patient has been anesthetized, the pulse rate remains the same as before the anesthetic, or if it drops, the outlook is excellent. On the other hand, if the pulse rate becomes progressively higher, the patient is not in the best of condition and had better return to bed to be approached later.

The following statistics of patients operated on under nitrous oxide anesthesia in the Crotti Clinic are from my own anesthetic records. They cover 3,057 thyroidectomies and 326 ligations. The cases were about equally divided between thyrotoxic diffuse parenchymatous and thyrotoxic nodular colloid. All the ligations and 2,720 of the thyroidectomies were undertaken in the patients' rooms. The average time of the operation for thyroidectomy from the induction of the anesthesia to the completion of the skin suturing was thirty-seven minutes. Many were completed in twenty minutes. The time required for anesthetizing and draping the patient averaged seven minutes, while that between starting the anesthetic and making the incision averaged eleven minutes. Time apparently lost here was used to observe the pulse rate as mentioned. The average time for the removal of the goiter was eleven minutes. The shortest was four minutes. The remaining minutes of the operation were consumed in the ligation of all bleeding points and in closing the muscles and skin. There can be no doubt whatever that the very short time these patients were on the operating table had much bearing on the low mortality rate. Except in thirty-two cases, no drainage was used. When drainage was deemed necessary, the wound was left open, packed with gauze saturated with acriflavine, and closed in forty-eight hours. There were twenty-seven deaths in the series of 3,057 thyroidectomies, or 0.88 per cent.

In the series of 326 ligations there were four deaths, 1.22 per cent, and all after single ligations. Patients who went through double ligations safely weathered the subsequent thyroidectomy. All thyrotoxic patients were treated with compound solution of iodine. Postoperative hemorrhage occurred in nine cases. The causes of death following thyroidectomy are given in the accompanying tabulation.

The deaths following the operation of ligation were all due to thyrotoxicosis. In none of these fatalities does it seem that the nitrous oxide anesthesia could possibly have been contributory. We have never had a death on the operating table.

Causes of Death	
Acute thyrotoxicosis	10
Hemorrhage	2
Malignancy	3
Collapse of trachea	1
Pneumonia	3
Hemiplegia	4
Streptococcus infection	2
Femoral embolism	1
Starvation	1*

* In an elderly woman, with a nontoxic goiter, who after convalescing normally for several days, refused further nourishment.

SUMMARY

1. More attention should be given to the preoperative treatment of the patient. Measures used following operations should often be employed before the operation, and this applies particularly to transfusion.

2. The factor of psychic shock is more often the one that turns the scale than is generally supposed.

3. If an inhalation anesthetic is used, gas should be the choice. Its sole danger is in the interference with oxidation. Since death from nitrous oxide is caused by asphyxiation, I believe that nitrous oxide is not dangerous if the patient's color is kept good. This is best observed by noting the condition of the blood. The surgeon and his assistants become accustomed to observing the blood and to noticing immediately the slightest change from a bright scarlet hue. It is only necessary for the surgeon to say "a little dark" for the anesthetist to bring back instantly the bright color. There is no other anesthetic which has such a clear, definite, warning signal. Nothing can be wrong with a patient who has a good color. If this fact is observed and if the heart is watched while anesthesia is induced, there is no danger.

4. The heart will sometimes dilate while the patient is going under the anesthetic. This may account for some fatalities, both on the operating table and following operation.

700 North Park Street.

Anatomy and Physiology: Medical Sciences. — Whereas physics, at an early day, and chemistry, somewhat later, were divorced from the medical school and were given independent positions in the universities, human anatomy and human physiology retained their incorporation in the medical school, and to this day they have never gained their independence. They are still called medical sciences and have had to bear the burden imposed on them, by implication at least, of pursuing knowledge for a definite utilitarian purpose. Today anatomy and physiology are thriving best where they are most free from the restrictions enforced on them through their inclusion in the medical school. These restrictions are not all associated with the relation of medicine to cure, however. Certain restrictions in the medical school have arisen from the attempt to provide a too rigid and all inclusive curriculum which expresses the antithesis of the university spirit.—Cole, Rufus: *Science* **67**:49 (Jan. 20) 1928.

THE ASSOCIATION OF PYLOROSPASM AND THYMIC ENLARGEMENT IN CHILDREN

MITCHELL I. RUBIN, M.D.
CHICAGO

Recently my attention was called to the fact that, following the taking of a series of roentgenograms in cases of vomiting with suspected pyloric stenosis, the vomiting frequently stopped. This, and the fact that in these cases of vomiting there was frequently a history of disturbances of respiration, led me to investigate the relation of vomiting to the disturbances of respiration and to the result of roentgen-ray exposure.

The type of disturbances of respiration complained of in these patients consisted of attacks of breath holding and cyanosis. These attacks of breath holding are not to be confused with those usually seen in children during the second year of life, since they were not in relation to crying or temper tantrums but came on without apparent cause. This type of disturbance of respiration has frequently been considered by many observers as evidence of an enlarged thymus. With this in mind, chest roentgenograms were taken in all patients coming to the outpatient department of the Children's Hospital of Philadelphia in whom the diagnosis of pylorospasm or pyloric stenosis was made during the period of this investigation. In addition, two cases of pylorospasm and four cases of pyloric stenosis from the Children's Memorial Hospital of Chicago were studied. The roentgenograms showed an enlarged thymus in all of thirteen cases of pylorospasm, but in only one of seven cases of pyloric stenosis. In none of these cases of pylorospasm was a pyloric tumor felt. In none was an operation required, as all improved under medical or roentgen-ray treatment of the thymus. In the seven cases of hypertrophic pyloric stenosis, the diagnoses were proved by operation.

REVIEW OF THE LITERATURE

Ten years ago, Rachford,[1] in reporting a series of cases of pyloric stenosis, commented on the presence of an enlarged thymus in two of his patients. He suggested the possible etiologic relationship between the two conditions. He refers to a paper by Dr. Dudley Palmer, who reported five cases of pyloric stenosis in which death occurred with thymic symptoms. In two of these cases the presence of an enlarged thymus was proved at autopsy.

Orville Barbour[2] reports four cases of pylorospasm in which the roentgenograms of the chest showed an enlarged thymus. His cases were treated with radium applied to the thymic region, with resulting cessation of the vomiting. He reports temporary relief afforded by roentgen-ray treatment of the thymus.

REPORT OF CASES OF PYLOROSPASM

For the sake of brevity, only a few of the cases of pylorospasm will be considered in detail.

CASE 1.—J. N., a boy, aged 1 month, of normal birth and breast-fed, seen, Aug. 3, 1927, had been vomiting a large part of each feeding soon after nursing. Just before vomiting, he drew up his legs as if he were in pain. The bowels were constipated and at times the child did not have a stool for two or three days. He had attacks of sighing markedly and became

1. Rachford, B. K.: Pyloric Stenosis in Infancy, Arch. Pediat. **34**: 803-809 (Nov.) 1917.
2. Barbour, Orville: Pylorospasm as a Manifestation of Thymic Disturbance, Arch. Pediat. **54**: 314-316 (May) 1927.

quite cyanotic. He was losing weight. Examination at this time was negative. As the child was getting only 1 ounce of breast milk, a complemental feeding of a milk and water mixture was given.

August 11, the child still had projectile vomiting about three times each day. He had been having frequent attacks of breath holding. At this examination, large gastric peristaltic waves were visible. Because of the roentgen-ray observations, roentgen-ray treatment of the thymus was begun.

August 16, the child had vomited only once since August 11, the day of the first roentgen-ray treatment, whereas previously he had been vomiting after each feeding. He had had only one breath holding spell during this time. Gastric peristaltic waves were still visible at this examination.

Fig. 1.—Condition in case 1.

August 30, the baby had not had any definite vomiting; occasionally he spit up a very small quantity after his feedings. He had not had an attack of breath holding for the past two weeks, and was gaining weight.

The history of spells of breath holding and cyanosis not in relation to crying was suggestive of the presence of an enlarged thymus. With roentgen-ray treatment of the thymus, the vomiting almost completely ceased and the breath holding and cyanotic attacks disappeared.

The roentgenogram taken August 3 showed a very slight increase in the width of the mediastinal shadow with some evidence of pressure on the trachea lower, however, than is usually the case with an enlarged thymus.

CASE 2.—R. C., a boy, aged 3 weeks, of normal birth and breast-fed, seen, July 13, 1927, had been vomiting a small amount of his food soon after each feeding. He had attacks of difficulty in breathing and became cyanotic. He was well nourished. After nursing, the child drew up his legs and cried as if in pain. Gastric peristaltic waves were visible. A roentgenogram of the chest showed an increase in the width of the mediastinal shadow. Roentgen-ray treatment of the thymus was started.

August 29, the patient still had difficulty in breathing. He had not vomited since roentgen-ray treatment was begun more than six weeks before, and had gained weight.

The chief concern of the mother was the difficulty in breathing and not the vomiting. The roentgenogram taken July 13 showed an increased width of the mediastinal shadow with slight encroachment posteriorly on the trachea, which was suggestive of an enlarged thymus.

CASE 3.—L. S., a boy, aged 4 months, of normal birth and bottle-fed, seen, Aug. 5, 1927, had not been gaining weight properly and cried after being fed. He did not have daily stools. The examination revealed undernourishment without any other abnormal physical signs. The child was on a lactic acid milk mixture and this was continued with only a slight increase in quantity.

August 12, the baby was spitting up part of his feeding after each bottle. Prior to spitting up, he drew up his legs as if in pain. There was no history of cyanotic attacks, and he was then gaining weight.

August 19, the baby was vomiting more than before, and had breath holding spells and became cyanotic (not in relation to crying). Gastric peristaltic waves were visible at this examination. The roentgenogram of the chest showed an increase in the width of the mediastinal shadow with an apparent posterior encroachment on the trachea. The child was put on a formula of thick cereal and was given atropine. He was not brought to the clinic subsequently.

The breath holding and cyanotic attacks, not in relation to crying suggested the possibility of an enlarged thymus. With these symptoms becoming manifest in the patient, the vomiting became more pronounced.

CASE 4.—D. M. P., a girl, aged 3 months, of normal birth, had been given supplemental feedings with condensed milk, and for several weeks had been vomiting large quantities after each feeding. When seen, Aug. 15, 1927, there was no history of breath holding and cyanosis. She had had attacks of becoming "stiff." She was small and fairly well nourished. After water had been given, marked gastric peristalic waves became visible, and this was followed by projectile vomiting. The physical examination was otherwise negative. A roentgenogram of the chest showed an increase in the width of the mediastinal shadow, with slight encroachment posteriorly on the trachea.

August 16, the child did not vomit at any time during the day, this being the first day that she had not vomited since the onset of the present condition. The gastric waves were still present. Roentgen-ray treatment of the thymus was begun.

September 15, there had not been any vomiting since the beginning of roentgen-ray treatment one month before.

The child had not had any further vomiting after the first roentgen-ray exposure incident to the taking of three roentgenograms on August 15. It is occasionally seen that children with other symptoms of enlarged thymus improve after the taking of a roentgenogram.

CASE 5.—L. R., a girl, aged 3 weeks, of instrumental birth, seen, Aug. 9, 1927, because she occasionally spit up some of her feedings, had been breast-fed one week and then placed on a milk and water mixture.

After feeding, she drew her legs up as if in pain. The bowels were constipated, and the child cried considerably. There was no history of breath holding or of cyanosis. She was well formed but somewhat undernourished; otherwise examination was negative. The baby was put on a milk and water mixture.

August 16, the child still cried after the feedings and vomited occasionally. The bowels were constipated. Examination revealed visible gastric peristaltic waves. The roentgenogram of the chest showed a slight increase in the width of the mediastinal shadow, with some narrowing of the trachea in the lateral view, which was suggestive of an enlarged thymus.

August 30, the bowels were no longer constipated, and the child was not vomiting. She was gaining weight and seemed much better. Roentgen-ray treatment of the thymus was started.

September 6, it was stated that the child had vomited several times just after the roentgen-ray treatment given, August 30, and had vomited several times since.

Fig. 2.—Condition in case 2.

Fig. 3.—Condition in case 4.

September 13, she had not vomited during the past week, and was now gaining weight and seemed more satisfied.

September 27, a roentgenogram showed improvement. The child was gaining weight and still was not vomiting.

October 27, the child spit up only occasionally, and there was no definite vomiting. She had gained weight and the bowel movements were good. She did not have any breath holding spells.

This patient, though upset after the first roentgen-ray treatment, improved under further roentgen-ray treatment of the thymus.

CASE 6.—H. W., a boy, aged 3 weeks, of normal birth and bottle-fed with a whole milk mixture, seen, June 2, 1927, had, since birth, been vomiting large quantities a few minutes after each feeding. The vomiting was projectile, often coming through the nostrils. Just prior to vomiting, he strained and drew up his legs as if he were in pain. The stools were of fair quantity and of normal consistency. There was no history of breath holding spells or cyanotic attacks. The physical examination was negative. After the child was given water there were visible gastric peristaltic waves, which were immediately followed by projectile vomiting. The child was put on a thick cereal formula and given atropine before each feeding.

Fig. 4.—Condition in case 5.

Fig. 5.—Condition in case 6.

June 26, the child had not vomited since the institution of the regimen more than three weeks before. The mother had discontinued the use of atropine a few days prior to this visit. No gastric peristaltic waves were visible at this examination.

This patient did not show any symptoms which would lead one to suspect that an enlarged thymus was present. With the giving of thick cereal feeding and atropine, the vomiting stopped. A roentgenogram taken August 5 showed a slight increase in the width of the mediastinal shadow with apparent slight encroachment posteriorly on the trachea. This was most likely due to an enlarged thymus.

CASE 7.—R. C., a boy, aged 2½ months, of normal birth and fed a dilution of cow's milk, was seen, Aug. 8, 1927, because of vomiting after every feeding since birth. He was losing weight and was fretful. The bowel movements were large. Examination revealed malnourishment and hypertonicity, with visible gastric peristaltic waves. The child was put on a thick cereal feeding and atropine was given.

August 21, the child was not vomiting any more and was gaining weight.

This child did not have any symptoms that would suggest the presence of an enlarged thymus. He improved with atropine and thick cereal feedings. A roentgenogram, taken August 18, showed a well marked increase in the width of the mediastinal shadow very suggestive of an enlarged thymus. There was no posterior enlargement.

CASE 8.—L. A., a boy, aged 2 months, of normal birth and bottle-fed, with a milk and water mixture, seen, June 21, 1927, had projectile vomiting after every feeding and seemed hungry after the vomiting. The stools were large. He had attacks of breath holding and became cyanotic. On examination he appeared well nourished and apparently normal. The roentgenogram of the chest showed a widening of the mediastinal shadow sufficient to suggest an enlarged thymus and to warrant roentgen-ray treatment. The child was put on a thick cereal feeding and atropine was given.

June 25, he had not vomited since the last visit to the clinic and had gained weight. Because of severe attacks of breath holding, roentgen-ray treatment of the thymus was begun.

July 15, the child was gaining weight and was not vomiting. He had had only one breath holding attack in the past week. The stools were good. Examination revealed gastric contraction but no peristaltic waves. During each contraction the outline of the stomach was definitely seen. The patient had now had a series of three roentgen-ray treatments, and roentgen-ray examination revealed a decrease in the width of the mediastinal shadow. No further roentgen-ray treatment was given.

July 29, the baby had been spitting up several times in the past two days, but otherwise his condition was the same. He was still gaining weight.

August 12, he was now vomiting twice daily; this was not projectile. He had not had any breath holding attacks since July 15. Examination revealed faint visible gastric peristaltic waves. The atropine was discontinued.

August 29, the child was vomiting a large amount after each feeding, but was gaining weight. He had had one breath holding attack in the past week; this was the first spell since July 15.

While the child was getting roentgen-ray treatments he did not vomit or have breath holding spells. After this treatment was discontinued the patient again began to vomit, even though the atropine and cereal feedings were continued. The breath holding spells returned in a much lesser degree. A second series of treatments may have been of benefit in this case.

CASE 9.—M. C., a girl, aged 5 weeks, of normal birth and breast-fed, was brought to the clinic, July 6, 1927, because she was not gaining weight. She was not vomiting. The stools were slimy and greenish. She had had attacks of breath holding, becoming stiff and cyanotic. The child did not cry much. Examination revealed a dehydration and malnourishment but was otherwise negative. As the mother had only a small amount of breast milk, a complemental feeding was given.

July 20, the child had now gained weight and seemed satisfied. She was not vomiting. Gastric peristaltic waves were visible. She still had attacks of breath holding and cyanosis. The roentgenogram of the chest showed a marked enlargement of the mediastinal shadow.

July 27, roentgen-ray treatment of the thymus was begun.

August 16, there had not been any vomiting. She still held her breath and became cyanotic. Moderate gastric waves were present.

October 1, she was having fewer attacks of breath holding. There had not been any vomiting, and the stools were normal.

This patient had large gastric peristaltic waves, but vomiting was not present. A roentgenogram taken July 22 showed a marked enlargement of the thymus in the anterior posterior view and definite encroachment on the trachea in the lateral view. An enlarged thymus was undoubtedly present.

Fig. 6.—Condition in case 8.

Fig. 7.—Condition in case 9.

Since studying these cases of pylorospasm, I have seen four other patients, each of whom presented gastric peristaltic waves, vomiting and enlargement of the mediastinal shadow. Two of these patients had a history of breath holding spells.

A detailed report of the cases of hypertrophic pyloric stenosis would seem unnecessary. The roentgenograms in the cases here reported were taken at the Children's Hospital of Philadelphia. They were interpreted by Dr. Ralph S. Bromer, head of the roentgen-ray department of the hospital.

COMMENT

There is at present much controversy as to the existence of any symptoms referable to an enlarged thymus. Helmholz, in discussing the paper of Wasson,[3] states that he has never seen a case of stridor due to an enlarged thymus. Abt, in commenting on the same paper, states, "Does a thymus produce stridor? I do not believe that there is any evidence during life or post mortem to show that thymic enlargement causes

Symptoms, Treatments and Results in Nine Cases of Pylorospasm

Case	Vomiting	Enlarged Thymus	Breath Holding and Cyanosis	Visible Gastric Peristaltic Waves	Roentgen-Ray Treatment	Thick Cereal and Atropine	Roentgen-Ray, Thick Cereal and Atropine	Results
1	+	+	+	+	+	0	0	Improved
2	+	+	+	+	+	0	0	Improved
3	+	+	+	+	0	+	0	?†
4	+	+	?*	+	+	0	0	Improved
5	+	+	0	+	+	0	0	Improved
6	+	+	0	+	0	+	0	Improved
7	+	+	0	+	0	+	0	Improved
8	+	+	+	+	0	0	+	Improved
9	0	+	+	+	+	0	0	Improved
Total	8	9	5	9	5	3	1	8

* The patient had attacks of becoming "stiff."
† The patient did not return to clinic.

compression on the trachea or bronchi, or larynx, in sufficient degree to produce stridor." Morse, in discussing Wasson's paper, says: "I think I have seen two or three cases of stridor due to pressure on the thymus." Freeman,[4] in a consideration of the symptomatology of enlarged thymus, states that breath holding, or attacks of crying followed by breath holding with occasional weakness or unconsciousness, are symptoms of an enlarged thymus. He tells of cases of severe breath holding following crying in which each patient showed an enlarged thymic shadow. He also reports several cases of convulsions with enlarged thymus in which the convulsions ceased after roentgen-ray treatment of the thymus.

The absence of roentgen-ray evidence of an enlarged thymus is not to be considered as definite proof that there is not an enlarged thymus present. In the past two months at the Children's Memorial Hospital in Chicago, the roentgen ray failed to show enlargement of the mediastinal shadow in three cases, in which at autopsy thymuses weighing 50, 35 and 30 Gm., respectively, were found. Friedlander[5] notes that "where the roentgen-ray evidence is positive, it is of real value in diagnosis, but when it is negative it is not to be considered final." Schloss, in discussing the paper of Blackfan and Little,[6] states that in no case in which roentgenograms were taken post mortem did the roentgen ray show what might be considered an enlarged thymus when the thymus gland was of normal size post mortem. In a review of the literature, I find that most of the observers regard a gland weighing more than 10 Gm. as abnormal. Others regard from 15 to 20 Gm. as abnormal.

In this series of cases of pylorospasm, all the patients showed an enlarged thymus on roentgenologic examination. Blackfan and Little[6] state that in a series of sixty infants with variable complaints, the roentgen ray showed an enlargement of the thymus in twenty-nine, or almost 50 per cent of the cases. Greenthal,[7] in a series of cases studied at the University of Michigan Hospital, states that, in chest roentgenograms of 351 children, 25.6 per cent showed an enlarged thymus shadow. Liss,[8] in writing on thymus shadow in infants states that, in a series of 119 patients, 42 per cent at birth showed a shadow measuring more than 3 cm., which he considers an enlargement of the thymus. (These pictures were taken at a distance of 19 inches.) An autopsy held in two cases of this group confirmed the roentgen-ray diagnosis of enlarged thymus.

Many of my associates have seen the patients whose cases I have presented and have checked the symptomatology which I have found. In presenting this report no attempt is made to explain the cause or relationship of these conditions.

SUMMARY

1. In all of thirteen nonselected, consecutive cases of pylorospasm, an enlarged thymus was shown by the roentgenogram.

2. More than half these patients had symptoms suggestive of thymic enlargement, as breath holding spells and cyanosis.

3. Five cases of this series were treated with the roentgen ray alone, and all showed improvement.

707 Fullerton Avenue.

3. Wasson, W. W.: Thymic Stridor, J. A. M. A. **89**: 1025-1028 (Sept. 24) 1927.
4. Freeman, R. G.: The Symptoms and Treatment of Thymus Hypertrophy in Infancy, Arch. Pediat. **40**: 665-677 (Oct.) 1923.
5. Friedlander, A.: The Thymus, in Abt's Pediatrics, **4**: 657-679, 1924.
6. Blackfan, K. D., and Little, Karl: A Clinical and Radiographic Study of the Thymus in Infants, Tr. Am. Pediat. Soc. **33**: 161-177, 1921.
7. Greenthal, R. M.: The Incidence of Thymic Enlargement Without Symptoms in Infants and Children, Am. J. Dis. Child. **24**: 433-440 (Nov.) 1922.
8. Liss, J. E.: Thymic Shadow in Infants, Am. J. Dis. Child. **24**: 192-199 (Sept.) 1922.

COLLOID CARCINOMA OF THE RECTUM

AN EARLY CASE*

LOUIS J. HIRSCHMAN, M.D.
AND
MILLARD S. ROSENBLATT, M.D.
DETROIT

We report this case because it is an example of carcinoma of the rectum arising from an internal prolapsing hemorrhoid of long duration. It also is of value in pointing out certain important facts.

REPORT OF CASE

History.—W. H., an Englishman, aged 47, single, an orderly, was admitted to the hospital, Oct. 31, 1927, because of rectal prolapse. For the last seventeen years he had been bothered with rectal trouble. At first he noted a small protrusion at the time of defecation, which could be returned. He frequently passed small amounts of blood from the rectum, and had had one severe hemorrhage fifteen years before. The prolapse has gradually been getting worse, and the last three years he had not been able to reduce it. During that time there had been considerable mucous discharge from the everted rectum. He had not noted any change in the character of the lesion or in the discharge in the last several years. He had not had any loss of weight nor had his general condition changed in the last several years. Since 1914, however, he had not been as robust as before.

The bowels had moved without difficulty, and there was no pain at defecation. The appetite was good.

There had been an unproductive cough. There were no symptoms referable to the other systems. No other facts in the past history had any bearing on the present condition, and there was no family history of carcinoma or of association with tuberculosis.

* From the Proctology Service of Harper Hospital.

Physical Examination.—The patient was thin and well developed, with pallor of the skin but good color of the lips and mucous membrane. Except for a chronic urethritis, the examination did not reveal anything of interest except the local condition. There was no enlargement of the liver, abdominal distention or fluid, and the inguinal or other lymph glands were not palpable.

The rectal examination showed a marked prolapse of the rectal mucosa with three tumor masses present. These were in the usual distribution of internal hemorrhoids, in the right anterior and posterior and left lateral quadrants, and were smoothly covered by nonulcerating rectal mucosa. The two on the right were 3 cm. in diameter; the one on the left, 5 cm. The left lateral hemorrhoid was apparently thrombotic, we thought, and somewhat harder than the other two. The sphincter was slightly relaxed. The proctoscopic examination, with the Hirschman proctoscope, did not reveal anything of further interest.

Fig. 1.—Gross specimen (enlarged).

The roentgenogram of the chest was negative for important pathologic change.

The red blood counts were 4,140,000 and 4,370 and the white blood count, 7,700; hemoglobin was 80 per cent and 85 per cent. The differential count showed polymorphonuclears, 67 per cent; lymphocytes, 29 per cent; large mononuclears, 3 per cent, and transitionals, 1 per cent. The Wassermann reaction was negative on two occasions, and the urine was normal except for numerous white blood cells.

Treatment and Course.—November 1, the patient was operated on for "internal prolapsing hemorrhoids," under sacral anesthesia. The three previously described masses were removed with a wide berth of tissue, three ligatures being first placed above the three lesions to control the blood vessels. On retrospect, we recall that the left lateral mass was much more firm than the other two, but this at the time was attributed to organizing thrombosis. The tissue was sent to the laboratory as a matter of routine, and not with any insight into its true character.

Fig. 2.—Gross specimen (enlarged): cut surface.

The tissue diagnosis, by Dr. Plinn F. Morse, was colloid carcinoma of the rectum. This was later rechecked with the same result.

The microscope showed an apparently early lesion, noninfiltrating and nonulcerating. The epithelial cells were mildly proliferative and very well differentiated, and with only slight mitosis and atypicality. The glands in part were cystlike and in part just dilated; they were filled with a gelatinous looking material which could also be seen in the cut gross specimen as a glairy, gray substance. The glands that were cystlike and fully filled with this material showed the cuboidal and columnar epithelium changed to a very flat type.

The patient's convalescence was uneventful, and on November 9 he was referred to Drs. Leceutia and Hasley for roentgen-ray and radium therapy. The patient was vigorously treated by high voltage deep roentgen-ray therapy over the pelvis and abdomen, and also was given radium therapy at the site of the previous lesion.

COMMENT

Despite the careful examination in this case, the diagnosis of carcinoma was not made until Dr. Morse noted it in the laboratory. If ever we were tempted to discard tissue without laboratory diagnosis, this was the time. It seemed certain, in the operating room, that this was a very open and shut case of prolapsing hemorrhoids, one of which was apparently thrombotic. Doubtless the left lateral mass, which was firmer and larger, was the area of carcinoma.

Fig. 3.—Section at base of hemorrhoid showing colloid carcinoma (objective, 16; ocular, 4).

At the time of operation, this was apparently a thrombotic hemorrhoid. It was covered by normal mucous membrane, was associated with two other areas of internal hemorrhoids, and had the classic anatomic position in relation to the usual three hemorrhoidal masses.

This case, then, emphasizes the necessity and the value of sending all tissue for laboratory diagnosis, regardless of how apparently inocuous it may appear.

The fact that this tumor developed after a history of disease and irritation in the region for seventeen years, and prolapse for at least five years, is evidence in favor of the clinical observation that chronic irritation is a localizing cause of carcinoma in a patient with a cancer diathesis.

That this carcinoma developed on a chronic infection of a long persisting and prolapsing internal hemorrhoid seems evident because of its typical position, duration of many years, the presence of two other hemorrhoids of soft consistency, and the usual appearance and distribution.

As is well known, about 50 per cent of all cancer occurs in the intestinal tract. Of cancers of the digestive tract, 16 per cent are cancer of the rectum or sigmoid colon.

This type of tumor—colloid carcinoma—is less common than adenocarcinoma, and about as common as the scirrhous type. Its characteristic is that it tends to encircle the rectum, thus eventually causing stenosis. It tends early to ulcerate through the mucosa, but is not papillary or cauliflower-like. At first it may be just a thickening of the wall of the rectum. Colloid is in reality a poor name for the tumor, because the material is in truth not colloid but gelatinous. The glands are dilated and form cystlike areas with this glairy, gray-white gelatinous material in them. This condition is in reality a retrograde change, and this particular change occurs only in malignant tumors. This tumor metastasizes early and usually to the peritoneum, omentum and liver.

We feel that our case was a very early one: it had not ulcerated the mucosa; it had not constricted the lumen of the rectum; it had not affected the general health or the blood count, and it had not metastasized, as far as could be determined.

The prognosis in this case is good. The tumor was removed early, it was excised with a wide berth, and the patient was vigorously treated with radium and deep roentgen-ray therapy.

STAPHYLOCOCCUS FILTRATES IN CHRONIC STAPHYLOCOCCIC PYODERMAS*

SIGMUND S. GREENBAUM, M.D.
AND
MALCOLM H. HARKINS, V.M.D.
PHILADELPHIA

Recent developments in the use of streptotoxins (scarlatina, erysipelas) and bacillotoxins (diphtheria) for diagnostic and immunizing purposes in both naturally immunizing and nonimmunizing diseases have opened up a wide field of speculation as to the relative value of all exotoxins in regard to an induced immunity. Although the virulence of staphylococci is ordinarily low, clinical experience indicates that natural immunity to these organisms is not common. In fact, pyodermas are fairly common, and although they are in many instances only acute transient phenomena, probably because of the patient's ability to manufacture antibodies rapidly, there are sufficient chronic persistent and recurrent instances which, in such persons, would indicate the lack of spontaneous antibody production. In such conditions as sycosis vulgaris and recurrent furunculosis, the development of any agent with specific immunizing properties would be decidedly welcome. The problem is all the more interesting because such conditions as scarlet fever, diphtheria and erysipelas are acute virulent infections, whereas the conditions under consideration are chronic low grade affairs, in which it seems that only a slight increase in antibody production would be sufficient to overcome them.

It has been known for many years that cultures of *Staphylococcus aureus* and *albus* contain at least two toxins, one destructive for erythrocytes and the other destructive for leukocytes. Experimentally, it has been shown that these toxins will produce staphylolysins.[1] In 1924, Parker[2] showed that *Staphylococcus aureus* toxin had a necrotizing action on rabbit skin, and several months ago Parker and Banzhaf[3] showed that most strains of *Staphylococcus aureus* have an exotoxin which in such amounts as 0.1 cc. causes marked necrosis when injected into rabbit skin. They were able after from three to seven intracutaneous injections of increasing doses of toxin to produce from 1,250 to 5,000 units of antitoxin in rabbit serum. They immunized horses with the view of using antitoxin in human infections. In this connection, it may be of interest to note that Nicholls[4] showed that an immunity induced by the soluble toxin of *Streptococcus scarlatinae*, although good for scarlatina, does not always immunize against pyogenic infections with this organism.

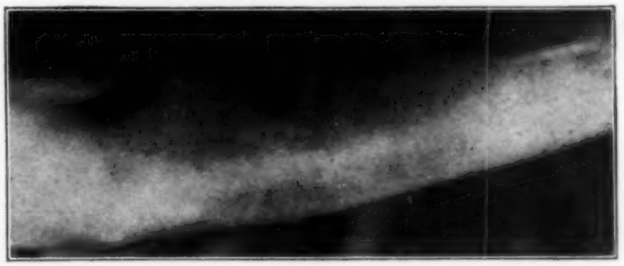


Fig. 1.—Left forearm of a highly susceptible person. Erythema, edema (slight) extends from the antecubital space to just above the wrist; the dark spot in the center is an intense red papule with the edema most marked at that point. Sycosis filtrate, in a dosage of 3 minims (0.2 cc.) had been given intracutaneously.

So far as we have been able to determine, no studies, such as are here reported, have been made in man.[5]

PREPARATION OF FILTRATE

The results which we have obtained are based purely on the action of the filtrate of one strain of *Staphylococcus aureus*. As has been shown experimentally and as occurs with other toxins, the toxic properties of the filtrates of different organisms vary, and in our work in animals this was found to be so with different strains of staphylococcus. The coccus was obtained from the root of an infected hair, in a case of extensive sycosis vulgaris. The organism was grown on a hormone-broth medium containing 1 per cent dextrose with brain tissue for six days, filtered through a Berkefeld W filter and tested for sterility.

CUTANEOUS TESTS FOR SUSCEPTIBILITY TO STAPHYLOCOCCUS INFECTIONS

Since staphylococci possess a virulence ordinarily much lower than streptococci, and since experimentally our filtrate showed little toxicity for rabbit skin, dilutions such as are used in the Dick test were not found

* From the Research Institute of Cutaneous Medicine.
* Read before the Eastern Chapter of the American Society of Bacteriologists, Philadelphia, May 24, 1927.

1. Kolmer, J. A.: Infection, Immunity and Biologic Therapy, ed. 3, Philadelphia, W. B. Saunders Company.
2. Parker, Julia T.: J. Exper. Med. **40**: 761 (Dec.) 1924.
3. Parker, Julia T., and Banzhaf, E. J.: J. Immunol. **13**: 25 (Jan.) 1927.
4. Nicholls, Edith E.: J. Clin. Investigation **3**: 411 (Dec.) 1926.
5. The work of Pilot and Afremow (THE JOURNAL, Sept. 17. 1927, p. 939) confirms in part some of our own work.

to be necessary. In the strengths used, reactions began to develop within from four to six hours, reaching the maximum in twenty-four hours. These reactions were local, focal and systemic, the latter depending on dosage and individual susceptibility. With an intracutaneous injection of 0.2 cc. of the undiluted filtrate, the reactions varied from marked local ones, such as intense erythema, papulation and edema, systemic ones, such as chilliness, malaise for two or three days, headache, fever, and focal ones in the presence of staphylococcias. Undiluted culture medium used as a control gave only a transient wheal.

In all, twenty-five patients were tested, but reports are available on only nineteen. These included:

A. Persons without a history of ever having had boils or abscesses.

B. Persons with a history of having had severe pustular acne vulgaris, boils or carbuncles at one time or recently.

C. Persons with actual staphylococcic infections.

In class A there are nine patients; in class B, five patients, and in class C, seven patients.

Fig. 2.—Appearance, at left, Jan. 26, 1927, of patient with sycosis vulgaris, before toxin or filtrate and despite constant use for many months, without improvement, of antiseptics. Roentgen ray gave temporary relief; depilation was done twice, with relapse shortly after each depilation. It was considered one of the most rebellious cases seen in our clinic. All treatment, except filtrate, was stopped. Vaccines are ordinarily useless. Nonspecific agents were tried. In center, February 24, after 7.5 cc. in divided doses at intervals of from four to six days intramuscularly and subcutaneously; hand depilation now added. At right, March 28, after only 3.5 cc. of filtrate additionally. Improvement definite. Clinical cure incomplete. Pustulation on cheeks practically gone. Activity still present on upper lip.

Cutaneous Reactions in Class A.—In this group there was one patient with alopecia areata who did not give any reaction at all, even when given 10 minims (0.6 cc.) of the undiluted filtrate, intracutaneously; but when given 15 minims (1 cc.) he developed central papulation in a moderately marked area of erythema. As compared to the others of all groups, he was considered immune, with ability to neutralize at least 10 minims of undiluted filtrate.

A second patient, however, who had received from four to five nonspecific (milk) injections over a period of eight weeks just preceding the test, gave only a slight local reaction to 0.2 cc. intracutaneously. There may, of course, have been an immunity normally present before the nonspecific injections. The remaining seven, as well as all others, gave reactions similar to that shown in figure 1 with 0.2 cc. of the filtrate intracutaneously, and smaller reactions with dilutions of 1 : 10, 1 : 50 and 1 : 100.

Cutaneous Reactions in Class B.—Two patients who had had many years previously severe pustular acne did not show any immunity whatever. One of these patients had received at one time (about ten years before) more than 100 injections of *Staphylococcus aureus* vaccine. A patient who had had a more recent severe infection of the same type likewise developed local and systemic disturbances. From this it would appear that, when recovery takes place in pustular acne, it is not the result of a staphylococcus immunity but of perhaps a readjustment of some other mechanism, such as an endocrine imbalance. However, the fourth patient, who had just recovered from the effects of a large (orange sized) carbuncle did not show any reaction, and the fifth, who had been having many boils up to two months before the test, showed only a slightly marked reaction.

Cutaneous Reactions in Class C.—All patients with active staphylococcus infections of the skin gave well marked reactions with all strengths (undiluted, 1 : 10, 1 : 50 and 1 : 100) in a degree varying with the amount injected. There were two cases of sycosis, two of severe acne vulgaris, two of seborrheic dermatitis and one of acne necrotica or varioliformis.

INDUCED LOCAL IMMUNITY

A patient with a long-standing case of acne (severe pustular type) was given 0.2 cc. of the filtrate intracutaneously. Within twelve hours there was marked local pain, redness, brawny edema and papulation, with chilliness and a general malaise lasting thirty-six hours. A similar injection was given six days later at the same site. Several hours later some local pain and tenderness developed but there were no systemic disturbances. The redness was less marked, and about half that produced by the first injection. Eight days after the second injection, a third one was given in exactly the same site as the previous two injections. Within six hours there was marked papulation and some pain. The papular lesion was at least four times the size of the papule produced by the first injection. Next day fairly marked redness, pain and papulation were present. That some slight general immunity had already developed from the injection of just 0.75 cc. of the filtrate seemed to be the case when a similar injection was given on the other arm. The reaction was about half that which had developed on the other arm, following the first injection.

CUTANEOUS TESTS AFTER IMMUNIZATION

Results can be reported for only two patients who received cutaneous tests after immunization. One received more than 7 cc. of the filtrate by subcutaneous and intramuscular injection and eventually gave a negative cutaneous reaction to 0.2 cc. of the filtrate, and the other, after 4 cc. of the filtrate, still gave the reaction, though less marked than before injections were commenced. It would seem, therefore, although we are basing this statement on the results in an extremely small number of cases, that the skin tests here described bear as specific a relation to staphylococcic infections as does the Dick test for immunity against scarlatina. The

exact dosage for treatment purposes, as well as the duration of the immunity, which I feel is short, is still *sub judice*.

From a therapeutic point of view no definite statement can as yet be made. Only five patients were treated, two for furunculosis, both of whom were relieved for three and five months, respectively. The third patient had sycosis vulgaris, and the illustrations (fig. 2) show the fairly marked improvement that took place. The other two patients had very superficial conditions, such as impetigos, which were not influenced at all.

1714 Pine Strect—2101 Pine Street.

THE CAUSATION OF CREEPING ERUPTION

G. F. WHITE, M.D.
WASHINGTON, D. C.
AND
W. E. DOVE, B.Sc.
DALLAS, TEXAS

The present paper is a brief discussion of some studies made on the causation of creeping eruption, a skin disease occurring frequently during the rainy portions of the summer in the South Atlantic and Gulf sections of the United States.

Lee,[1] in 1875 in England, encountered a skin disease characterized by an advancing linear lesion which he described under the name "creeping eruption." Soon afterward he saw a second case. The cause was sought but not found. From the nature of the lesions he was led to believe that the eruption was due to "an active parasite or animalcule" migrating in the skin. Some-

Fig. 1.—Creeping eruption (patient of Dr. J. L. Kirby-Smith).

what later (1893), Crocker [2] reported another case from England. Although he did not find a parasite he expressed the belief that "it was probably due to the travels of some insect larva" and consequently suggested the name "larva migrans" for the disease.

CREEPING DISEASES CAUSED BY FLY LARVAE

In 1895, Samson-Himmelstjerne,[3] in Russia, wrote of a new skin disease which he had observed during the two preceding years. From one of the patients he removed a parasite which seemed to him to be the larva of the horse botfly, *Gastrophilus*. Sokolow,[4] learning of Samson's observations, wrote in 1896 of a small "worm" which migrated in the epidermis of the skin, saying that he had seen a number of such cases.

Fig. 2.—Sections of human skin containing a complete series through the creeping-eruption nematode.

A parasite removed by Sokolow was submitted to Cholodkovsky, an entomologist, who identified it as the larva of the horse bot.

The first-stage larvae of *Gastrophilus* are to be found in nature in the yellowish eggs or "nits" attached to the hairs of the forelegs of horses. When these eggs with well developed embryos are rubbed in the palms of the hands the larvae readily emerge and are at once able to invade the skin. This fact suggests possible modes of infection in creeping diseases caused by the larvae of flies.

The young larvae or grubs of the cattle "heel fly" *Hypoderma*, too, may migrate in or beneath the skin of man and be the cause of a creeping disease. Larvae of still other species of flies occur from time to time in the human skin.

A series of observations like these naturally led to the opinion, usually expressed in textbooks, that "creeping eruption" is caused by fly larvae, these belonging more often to a species of *Gastrophilus*.

CREEPING DISEASES CAUSED BY NEMATODES

An immature stage of a nematode of the genus *Gnathostoma* may migrate in the skin and cause a creeping disease. As many as seven of these cases have

1. Lee, R. J.: Case of Creeping Eruption, Tr. Clin. Soc. London **8**: 44 (Aug.) 1875.
2. Crocker, H. R.: Larva Migrans, Diseases of the Skin, 1893.
3. Samson-Himmelstjerne, C. V.: Russk. Vrach, 1895, number 48; cited by Samson: Arch. f. Dermat. u. Syph. **41**: 367, 1897.
4. Sokolow, J. L.: Russk. Vrach, 1896, number 52; cited by Samson.

been reported from the Orient.[5] The third-stage larvae of quite a different nematode has been shown to be the cause of still another creeping disease,[6] the one discussed in the present paper.[7]

THE TERM "CREEPING ERUPTION"

From the foregoing statements it will be seen that a number of different animal parasites may invade and migrate in the human skin and each cause a creeping disease. Since these diseases are different, the tendency recently has been to refer to them as "creeping diseases" rather than by the singular term "creeping eruption."

It is not possible now to know which of the creeping diseases Lee observed when he used the name "creeping eruption." Kirby-Smith, Dove and White[6] have suggested that this name be retained and used specifically for the creeping disease (fig. 1) frequently encountered in the South Atlantic and Gulf states, which was demonstrated by them to be due to a third-stage nematode larva.

SOME STUDIES ON CREEPING ERUPTION

In 1924, a ten-day clinic was held in Jacksonville, Fla., for the purpose of making studies on creeping eruption. This was arranged for and conducted under the direction of Dr. J. L. Kirby-Smith, with the hearty cooperation of the Florida State Board of Health and the Jacksonville City Board of Health.

Among those applying for treatment, 179 had creeping eruption. The physical examinations of a number of these included the gross dissection of the linear lesions in search of the parasite. These examinations, however, did not reveal any parasites. Negative results were also obtained from the dissections of fresh excised skin examined microscopically.

Microtome serial sections were then made of skin-bearing lesions of the disease. In this way the parasite was found, being recovered in five out of the forty-eight excisions that were completely sectioned. A study of the parasite (fig. 2) showed it to be a third-stage nematode larva (fig. 3). It was described under the name *Agamonematodum migrans,* pending the discovery of the adult worm.

Fig. 3.—Schematic drawing of the larva reconstructed from the sections in figure 2.

SEARCHING FOR THE ADULT WORM

The studies on the larval worm found in the skin indicated that the normal habitat of the adult worm was some animal's intestine. Furthermore, it seemed quite likely that the eggs or the young stages of the parasite were being passed in the feces of the host animal while visiting or living in locations where creeping-eruption infections were originating.

From the histories of patients studied at the clinic, it was possible to ascertain approximately the locations where infections had taken place. When these locations were studied it was found that they were not being frequented by the larger animals, such as horses, cattle, sheep, goats and hogs. In this way these animals were eliminated tentatively as probable normal hosts of the adult creeping-eruption worm. Because of the occurrence of rats, poultry, dogs and cats in these localities, these smaller animals were among those suspected of being possible hosts of the worm.

That man himself might be the normal host was held as a possibility also. That insects and other cold-blooded animals might be concerned in the causation of the disease was also given consideration. Studies made in connection with a second clinic, held in July, 1925, similar to the one of the preceding year, tended to confirm most of the observations made during the first year.

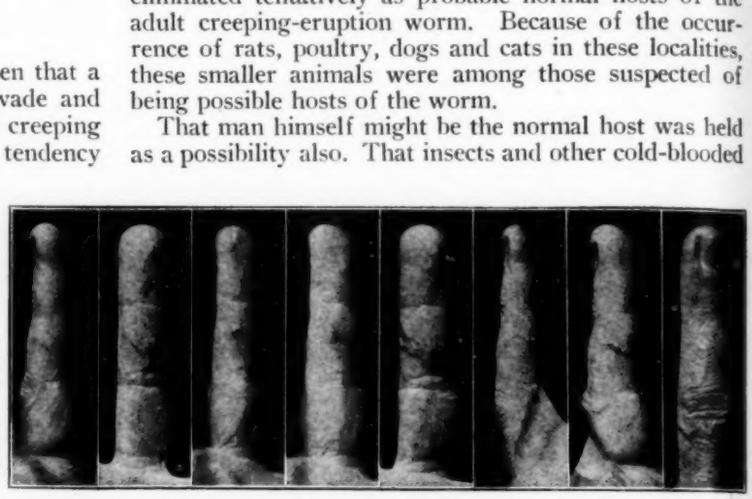


Fig. 4.—Creeping eruption produced experimentally with a nematode larva obtained in culture from the dog.

Infective larvae of two nematode species, *Strongyloides ratti* Sandground and *(Heligmosomum) Nippostrongylus muris* Yokogawa, from the common rat, *Rattus norvegicus,* when applied to the human skin failed to show that either of these was the parasite of creeping eruption.

Another rodent, the cotton rat, *Sigmodon hispidus,* quite plentiful in the fields where these creeping-eruption studies were being made, was found also to harbor a *Strongyloides* and a *Nippostrongylus* differing, however, from those of the common rat, as shown by cross inoculations. When infective larvae of the *Strongyloides* species were applied to the human skin penetration occurred, followed within a few hours by a small area of erythema and then by a papule-like elevation about each point of ingress. These lesions, however, disappeared after a few days and were not accompanied at any time by advancing, linear ones. Application of infective larvae of the *Nippostrongylus* species has not yielded any evidence of penetration.

To this extent the common rat and the cotton rat were tentatively eliminated as likely hosts of the creeping-eruption parasite. Similarly poultry and, to a certain degree, some of the cold-blooded animals were likewise eliminated.

DOGS AND CATS CONCERNED IN THE CAUSATION OF CREEPING ERUPTION

A further search for the host of the adult worm was made during the summer of 1926, when and where there was a high incidence of creeping eruption. Studies made in connection with an especially favorable case are of interest here.

A man, aged 30, living in Jacksonville, a shipping clerk for a wholesale fruit company located in the city, stated that on August 22 he had been working under his automobile with his back and arms in contact with the damp soil. He was wet with perspiration and within ten minutes experienced stinging

5. Morishita, K., and Faust, E. C.: Two New Cases of Human Creeping Disease (Gnathostomiasis) in China, J. Parasitol. **11**: 158 (March) 1925.

6. Kirby-Smith, J. L.; Dove, W. E., and White, G. F.: Creeping Eruption, Arch. Dermat. & Syph. **13**: 137 (Feb.) 1926.

7. No attempt is made at this time to summarize the literature on the creeping diseases. Such summaries have been made by Tamura (On Creeping Disease, Brit. J. Dermat. & Syph. **33**: 81 [March] 1921) and Austmann (Creeping Eruption, J. A. M. A. **87**: 1196 [Oct. 9] 1926).

sensations on the back and arms. When he consulted Dr. Kirby-Smith for treatment, two days later, more than seventy papules were present. Linear lesions already extended from some of these.

A dog and two cats were obtained for study from families occupying apartments adjoining the location where the infection occurred in this case. Cultures were taken from the feces of each of these animals, and from each infective nematode larvae were recovered.

September 1, larvae from the dog were applied to the skin of each of two volunteers. One received four on the flexor surface of the forearm, the other an equal number between the middle and ring finger of the left hand. In each instance a stinging sensation was experienced following the inoculation, and within twelve hours itching, papule-like elevations were present.

No linear lesions occurred on the forearm, the papules practically disappearing by the eleventh day.

In the other experiment, a narrow area of erythema was observed on the fifth day following the inoculation, extending for a distance of 2 cm. from a papule on the ring finger. On the following day a raised "line" was present in this area throughout its length. Migration was allowed to continue for four weeks (fig. 4), and then the infection was treated by freezing with ethyl chloride.

September 8, the forearm of this subject was again inoculated with larvae from the dog. Papules resulted, and from one of these an advancing linear lesion occurred (fig. 5), which was active for more than six weeks and then disappeared without treatment.

Autopsies were performed on the dog and the two cats. From the dog about 150 hookworms were recovered. Two species of these worms, recognized morphologically as *Ancylostoma braziliense*[8] and *A. caninum*, were present. They occurred in the proportion of about five of the former to one of the latter. The cats, too, were found to be infected with hookworm. In each,

Fig. 5.—Creeping eruption also produced experimentally with a nematode larva from the dog.

however, was found a single species, in one, *A. braziliense* and in the other, *A. caninum*.

CREEPING ERUPTION PRODUCED EXPERIMENTALLY

Larvae from the dog and from each of the two cats were later taken to Washington and to Baltimore, respectively, where further studies were made with them. Larvae in mixed cultures from the dog were fed to dogs and cats demonstrated to be free from hookworm infection. All these animals became infested. Adult worms, both *A. braziliense* and *A. caninum*, were recovered at autopsies from each of the inoculated animals. Adult worms of each of these two species, after being identified microscopically, were fed to other "clean" dogs and cats, each animal receiving a few worms of a single species. *A. braziliense* and *A. caninum* were obtained in pure cultures from these animals.

When larvae from a pure culture of *A. braziliense* were applied to the skin there followed areas of erythema, papular elevations, and frequently the advancing linear lesions (fig. 6) that characterize creeping eruption. Similar applications were made with larvae from pure cultures of *A. caninum*. Although such inoculations were repeated a number of times, thus far creeping-eruption lesions have not followed.

Fig. 6.—Creeping eruption produced experimentally with a larva from a pure culture of Ancylostoma braziliense from the dog; lesion eight days after inoculation.

"Clean" dogs and cats were inoculated with cultures from the original two cats, each experimental animal receiving a culture from a single cat. The animals that received larvae from one of the original cats were found at autopsy to be infested with *A. braziliense* only, while those inoculated with larvae from the other cat became infested with *A. caninum* only. These experiments tended to confirm the earlier observations, which had indicated that each of the original cats was infested with a single but a different species.

When larvae from the cat found to be infested with *A. braziliense* only were applied to the skin, lesions characteristic of creeping eruption were produced (fig. 7). When larvae from the other cat, found to be infested with *A. caninum* only, were similarly applied to the skin, creeping eruption did not follow.

IDENTITY OF HOOKWORMS RECOVERED FROM THE DOG AND THE CATS

It will be noted that cats were fed infective larvae from the dog, and that dogs were similarly inoculated with larvae from the cats, and that in each instance infestation resulted. Adult hookworms, too, obtained from experimental dogs, were fed to "clean" cats, and adult worms from experimental cats were likewise given to "clean" dogs. Infestation in each instance followed. The comparatively young animals that were used had not given any evidence that they had been previously infested. These cross inoculations tended to support the morphologic observation that the two hook-

8. De Faria, Gomez: Ancylostoma Braziliense N. Sp., Parasites of Cats and Dogs, Mem. do Inst. Oswaldo Cruz **2**: 286, 1910.

worm species encountered in the dog were similar, respectively, to the two recovered from the cats.

In connection with the production of a creeping disease experimentally, it is interesting that Fülleborn,[9] in Germany, obtained an advancing linear lesion in his own skin through the application of larvae of *Uncinaria stenocephala*, another hookworm, occurring in dogs in Germany.

FURTHER OBSERVATIONS

It having been determined that dogs and cats are concerned in the causation of creeping eruption, studies were made on dogs at the Jacksonville city pound to learn of the incidence of hookworm infestation in these animals. Out of twenty-seven dogs examined at autopsy, twenty-six were found to be infested. *A. braziliense* was recovered from each of the twenty-six infested dogs, and *A. caninum* from nearly all of them, the latter species occurring in much smaller numbers than the former. This observation and the fact that the cats, too, are a reservoir of infestation indicate the extent of the source of the creeping-eruption parasite.

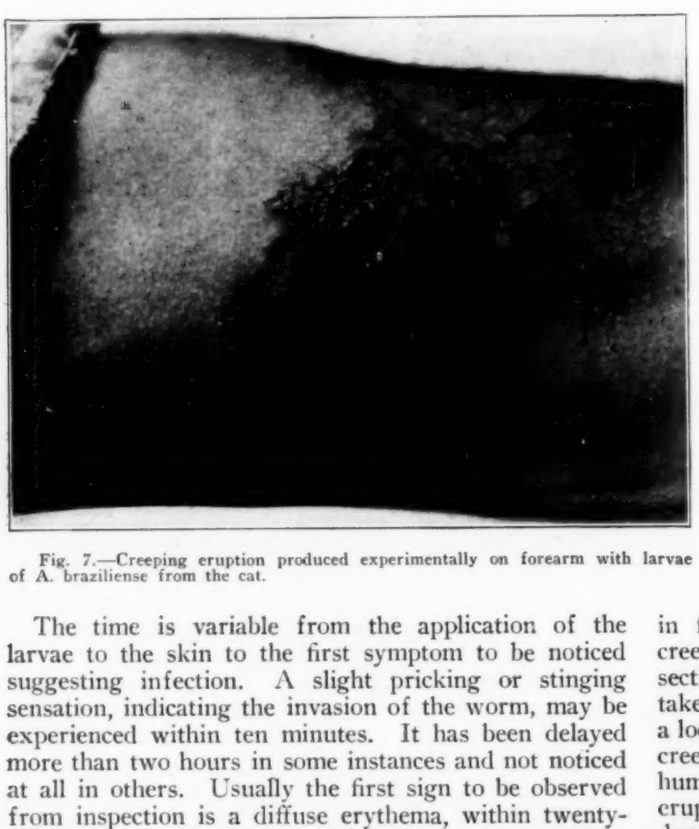


Fig. 7.—Creeping eruption produced experimentally on forearm with larvae of A. braziliense from the cat.

The time is variable from the application of the larvae to the skin to the first symptom to be noticed suggesting infection. A slight pricking or stinging sensation, indicating the invasion of the worm, may be experienced within ten minutes. It has been delayed more than two hours in some instances and not noticed at all in others. Usually the first sign to be observed from inspection is a diffuse erythema, within twenty-four hours, about the point of ingress of the larva. This is preceded, accompanied and followed by itching. A papule-like elevation is soon to be seen about the point.

When an infection by a single larva is studied, it is found that the itching is not continuous but is alternated by periods during which none is experienced. At times, indeed, the itching is quite intense. It has been more so early in the course of the disease rather than later.

The duration of the disease has varied considerably in the experimentally produced infections. Some of the migrations terminated within three weeks, whereas others were active more than three months. On a number of occasions wheal-like elevations accompanied by itching have appeared near the site at which the lesions were last noted. These have been observed as long as ten months after the migrations ceased to be active. Observations of a similar nature have been made in connection with other worm infections.

It will be recalled that different workers have produced "ground itch" experimentally by placing infective human hookworm larvae on the skin. These observations and those of our own on creeping eruption support the belief, entertained by Kirby-Smith and others who have had much experience with these cutaneous infections, that creeping eruption and ground itch are two clearly different diseases. Looss,[10] from some preliminary studies, was led to a view somewhat different from this one, it being his belief that "creeping eruption" may be produced by *Ancylostoma duodenale* and *Strongyloides stercoralis*.

Naturally there are many phases of this interesting disease that cannot receive attention in a short communication. We shall comment further on this subject in another place.

SUMMARY AND CONCLUSIONS

1. Creeping eruption is defined in most textbooks as a skin disease caused by the migration of fly larvae in the human skin, resulting in advancing linear lesions.

2. A number of different species of animal parasites may cause such skin lesions. There are therefore a number of different creeping diseases.

3. Some of these, indeed, are caused by fly larvae.

4. One of them is due to an immature stage of a nematode of the genus *Gnathostoma*.

5. Another one is the creeping disease discussed in the present paper, caused by a third-stage larva of one of the dog and cat hookworms, *Ancylostoma braziliense*. The name "creeping eruption" has been retained and used specifically for this disease.

6. The demonstration of the cause of creeping eruption was accomplished in the following way: (*a*) Third stage nematode larvae were recovered in five out of forty-eight skin excisions containing creeping-eruption lesions, studied from serial microtome sections; (*b*) cultures of infective nematode larvae were taken from the feces of the dog and the cat, examined in a locality where and when there was a high incidence of creeping eruption; (*c*) these larvae were applied to the human skin, and the advancing linear lesions of creeping eruption were thereby produced; (*d*) at autopsy on these dogs and cats only two species of worms having third-stage infective larvae were present (these were dog and cat hookworms recognized morphologically as *A. braziliense* and *A. caninum*); (*e*) characteristic lesions of creeping eruption were produced when larvae from pure cultures of *A. braziliense* were applied to the human skin, and (*f*) such lesions were not produced when pure cultures of *A. caninum* were similarly placed on the skin.

9. Fülleborn, F.: Experimentell erzeugte "Creeping Eruption," Dermat. Wchnschr. **83**: 1474 (Oct.) 1926.

10. Looss, A.: The Anatomy and Life History of Ancylostoma Duodenale, Records of Egyptian Government School of Medicine **4**: 163, 1911.

Social Problems.—Do not gather from what I have said that I think the psychiatrist has within his grasp the solution of all social problems. I have no such idea.—White, W. A.: *Am. J. Psychiat.*, March, 1928.

MERALGIA PARAESTHETICA

ETIOLOGY AND SURGICAL TREATMENT *

BYRON STOOKEY, M.D.
NEW YORK

While meralgia paraesthetica has been clearly appreciated as a definite clinical entity since the original independent descriptions of this disease by Bernhardt [1] and by Roth [2] in 1895, no definite etiology or form of treatment has been presented in the intervening years. In spite of a fairly large number of case reports in the literature, little has been added to Bernhardt and Roth's clinical description of meralgia paraesthetica, which is characterized by pain, paresthesias and sensory disturbances in the distribution of the external cutaneous nerve of the thigh. When these subjective and objective sensory disturbances are present in areas not supplied by the external cutaneous nerve the disease should not be called meralgia paraesthetica, since nearly all who have studied this condition are agreed with Bernhardt and Roth that both the subjective and the objective manifestations are limited to the external cutaneous nerve area. Unfortunately, in a few instances the term "meralgia paraesthetica" has been used to apply to widespread nerve root involvement with burning and paresthesias in areas altogether out of the distribution of the external cutaneous nerve.

Rosenheck [3] feels that "the location of the pain or paresthesia is only of academic interest" and looks on meralgia paraesthetica "as the expression of a radicular syndrome secondary to ostearthritis of the spine, and not as a distinct clinical entity in the nature of a peripheral nerve affection—as it is regarded by all writers on the subject." Thus in one of his patients the anterior aspect of the thigh, and not the lateral aspect or external cutaneous area, was involved, "and a number showed involvement of all lumbar and sacral roots." It is obvious, therefore, that in these instances Rosenheck was not dealing with meralgia paraesthetica, since by definition the area involved in this condition is not a root area but a peripheral nerve area. Ostearthritis of the spine can produce root symptoms but not peripheral nerve symptoms. That ostearthritis of the spine may give rise to nerve root compression is well known.

In meralgia paraesthetica the pain appears usually on standing or walking, and is relieved by lying down. The pain may become so severe as to incapacitate the patient but usually it is annoying rather than incapacitating. The paresthesias are described as burning, tingling or sticking sensations, always within the distribution of the external cutaneous nerve. Objective sensory disturbances are found—frequently a dissociation of sensation with pain and temperature loss greater than tactile. Not infrequently hyperesthesia precedes anesthesia. Anesthesia and analgesia in late cases may be complete, though they are sharply limited to the distribution of the external cutaneous nerve. In some cases the pilomotor reflex in this area is lost and the skin becomes thickened; the hair may fall out, and small nodules in the subcutaneous tissue may be felt. These nodules are extremely tender to pressure, as may be the entire nerve trunk.

The disease is far more common in men than in women, appearing mostly in muscular or obese persons between the ages of 30 and 70, with greater incidence in the fifth and sixth decades. There have been a few reports [4] of cases occurring in more than one member of a family. The condition may be unilateral or bilateral; more frequently it is unilateral, occurring approximately equally on the two sides.

It is extremely interesting that a disease entity so clearly defined in its clinical manifestations should have had such varying etiologic factors advanced in explanation. Among the causative factors mentioned are infections, especially typhoid; alcoholic excesses; lead poisoning; diabetes; gout; rheumatism; ostearthritis of the spine; exposure to cold; exposure to heat; trauma; pregnancy; varicose veins, and even tabes and general paralysis. Whenever such an array of etiologic factors is advanced in explanation of any disease, it may usually

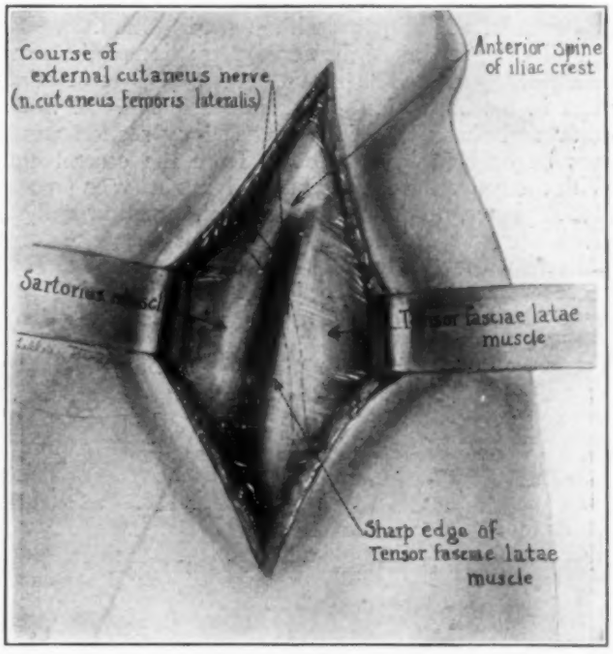


Fig. 1.—Incision for exposure of the external cutaneous nerve. Frequently the nerve is found between the deep and the superficial fascia.

be taken to indicate ignorance of the real cause. Irrespective of the etiology, whether thought to be infectious or toxic, one fact appears in all the histories—namely, that standing or walking increases the pain, and that rest and flexion of the thigh relieve the pain.

Importance has been given to the relation of the nerve within the pelvis to the cecum on the right side and the colon on the left. The fact that the nerve in the thigh is superficial and is therefore peculiarly exposed to traumatism has also been thought to be responsible. Another explanation offered is that the nerve twigs pierce the dense fascia lata and are compressed by the fascia, or that the nerve after it has emerged from the pelvis beneath Poupart's ligament lies in a special fascial canal within the fascia lata where it may be compressed by surrounding fascia on walking or standing, since on standing the fascia is made tense. In view of the relationship of the symptoms to posture, both of these theo-

* Read before the combined meeting of the Sections of Neurology and Psychiatry, and Obstetrics and Gynecology, Academy of Medicine, New York, Jan. 24, 1927.

1. Bernhardt: Ueber isoliert Gibiete des Nervus cutaneus femoris externus vorkommende paraesthesien, Neurol. Centralbl., 1895, p. 242.
2. Roth: Meralgia Paraesthetica, Berlin, S. Karger, 1895.
3. Rosenheck, Charles: Meralgia Paraesthetica, J. A. M. A. **85**: 416 (Aug. 8) 1925.
4. Musser and Sailer: Meralgia Paraesthetica, J. Nerv. & Ment. Dis. **27**: 16, 1900. Thomas, André: Meralgia Paraesthetica, Paris méd. **10**: 422 (May 22) 1920. Goldstein, H. I.: Meralgia Paraesthetica, Am. J. M. Sc. **162**: 720 (Nov.) 1921.

ries are interesting because they imply a definite anatomic and mechanical explanation. However, Musser and Sailer felt that "it had never been demonstrated that the fascia does or could press upon the nerve trunk, and it is, therefore, a pure assumption to regard this condition as a cause."

In one patient under my care, pain on walking or standing was so intense that he was incapacitaed. Baking and massage and other physical therapeutic measures had all been tried without relief. Empirically, section of the nerve as it left the pelvis was finally undertaken. At operation the external cutaneous nerve was found sharply angulated beneath the origin of the sartorious muscle. The nerve passed in a sharp angle over a slight bony ridge on the ileum. The leg had been placed in semiflexion before the operation and even in this position the nerve was under constant tension, which was visibly increased when the pillows supporting the extremity were removed and the leg was allowed to lie in extension. The nerve seemed slightly thickened and broader at this point with slight injection.

Following section of the nerve, retraction of the nerve ends took place. The nerve ends were left in alinement in the hope that spontaneous regeneration would occur and that the defect produced by section would thus be bridged by outgrowth from the central end. With the nerve ends in alinement, lying between smooth fascial planes, a defect of 1 or 2 cm. experimentally is often bridged spontaneously by outgrowth from the central end without suture. Were this to take place, the nerve would be lengthened and sensation eventually restored. Obviously, if end to end suture were done,

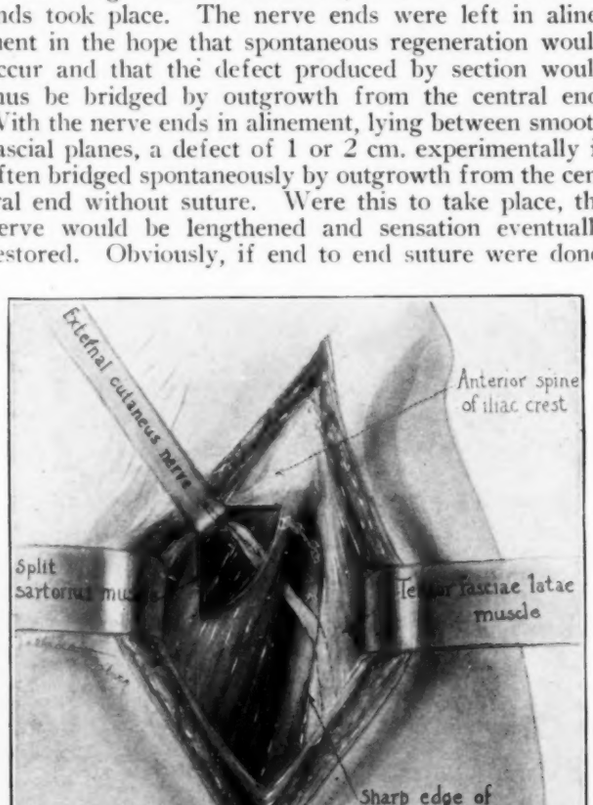

External cutaneous nerve
Anterior spine of iliac crest
Split sartorius muscle
Tensor fasciae latae muscle
Sharp edge of Tensor fasciae latae muscle

Fig. 2.—The external cutaneous nerve may be found passing through the sartorius muscle.

the mechanical condition which brought about the nerve irritation would be reproduced and the operation vitiated.

Struck by the importance of the conditions found at operation, I made a series of dissections of the external cutaneous nerve. When the nerve was traced within the fascial canal of the fascia lata, it was found not to be compressed by movements of the leg in extension or flexion. The nerve is adequately protected by the arcuate arrangement of the fascial fibers. The same is true at the points of emergence where the nerve branches pass through the fascia lata. The nerve usually pierces the fascia lata as two or three separate branches. Thus, Musser and Sailer's view in considering it "a pure assumption to regard this condition as a cause" would

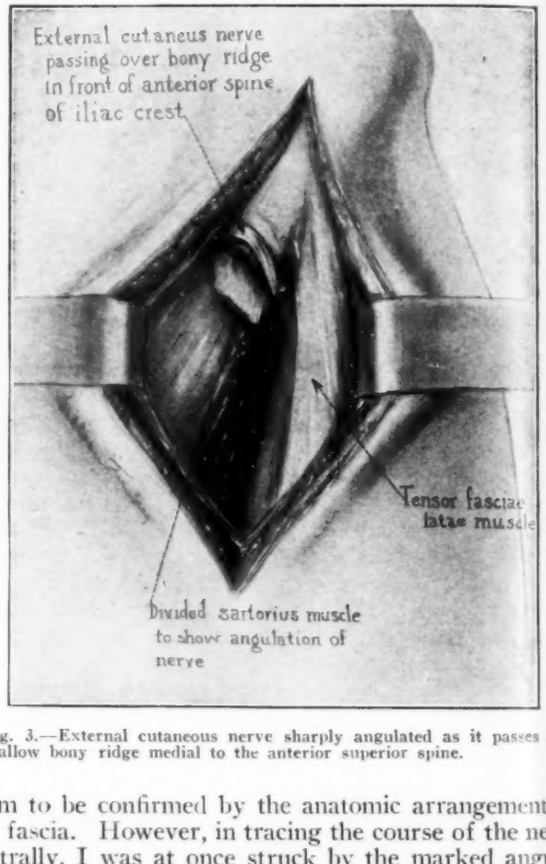

External cutaneus nerve passing over bony ridge in front of anterior spine of iliac crest
Tensor fasciae latae muscle
Divided sartorius muscle to show angulation of nerve

Fig. 3.—External cutaneous nerve sharply angulated as it passes over a shallow bony ridge medial to the anterior superior spine.

seem to be confirmed by the anatomic arrangement of the fascia. However, in tracing the course of the nerve centrally, I was at once struck by the marked angulation of the nerve as it emerged from the pelvis medial to the anterior spine. The nerve at this point forms an abrupt angle which is considerably increased by extension and lessened by flexion of the thigh.

Several variations in the manner of its emergence from the pelvis were encountered. The nerve may pass superficial to the origin of the sartorius muscle, or through this muscle piercing it obliquely, or it may pass altogether beneath the muscle lying on a ridge of the ilium; in one instance it was found to cross the crest of the ilium immediately lateral to the anterior superior spine. In some instances when the nerve passed beneath the sartorius it lay within a shallow bony ridge or groove just beneath the anterior superior spine of the ilium. When these conditions obtained, the angle formed as the nerve left the pelvis was extremely sharp with tension on the nerve at this point which was visibly increased with the leg in extension.

Nerves, as is known, are liable eventually to injury if they are subjected to continuous movement over abnormally sharp angles. Classic examples are the ulnar nerve at the elbow after fracture of the humeral condyles, or the inner cord of the brachial plexus when it forms an unusually sharp angle as it leaves the thorax over an abnormal fascial band from a short rudimentary cervical rib or over a bony cervical rib. When these two conditions obtain, ulnar nerve and brachial plexus signs are likely to appear.

In both of these well known clinical entities, it is definitely accepted that the causative factor is an abnormally sharp angulation with repeated movement of the nerve structure at the point of angulation. In one, the increased angulation is acquired as a result of traumatism and in the other it is congenital. In both instances, it is only after years of continued traumatism that nerve signs appear. I have seen ulnar nerve signs appear from thirty to forty years and longer, after fracture of the humeral condyles, and brachial plexus signs appear in the fourth or fifth decade in the presence of cervical ribs. The parallelism between these two conditions and that found in meralgia paraesthetica is close. I believe that the mechanism is identical; namely, an abnormal sharp angulation of the external cutaneous nerve as it leaves the pelvis with continuous trauma to the nerve in movements of the thigh, especially in standing and walking.

Thus, etiologic factors which clinical experience has shown may produce marked clinical signs in both the ulnar nerve and the brachial plexus are operative in certain instances on the external cutaneous nerve as it leaves the pelvis. Here the sharp angulation of the external cutaneous nerve is increased by movements of extension such as occur on standing or walking. Likewise, the most constant clinical signs to be found in the cases reported throughout the literature is, as has been pointed out, accentuation of the signs on standing or walking.

One of the clinical signs of meralgia paraesthetica is the tendency to dissociation of sensation with greater loss of pain and temperature. To some this seems to be conflicting and without adequate explanation. However, it will be recalled that such dissociation of sensation is a common observation in brachial plexus compression due to cervical rib and consequently is not to be considered as an unusual phenomenon in peripheral nerve compression.

In both angulation of the brachial plexus and of the ulnar nerve, motor and sensory signs are apparent because nerve trunks which carry important somatic motor and sensory fibers are affected; consequently, atrophy and motor weakness are outstanding signs in these two conditions, which are not present in disturbances of the external cutaneous nerve, since this has been acknowledged to be a purely sensory nerve. However, newer evidence indicates that the external cutaneous nerve is not purely a sensory nerve but that motor signs are to be found in injury to this nerve by angulation at the anterior superior spine. Numerous observers have noted that goose flesh did not occur in the affected area; thus, the pilomotor response supplied by the postganglionic sympathetic fibers is lost. Consequently the external cutaneous nerve must be looked on as carrying postganglionic effector sympathetic motor fibers and, therefore, is in a limited sense both a sensory and a motor nerve.

Perhaps the presence of the sympathetic fibers may account for the burning sensation frequently found in meralgia paraesthetica and commonly seen in those nerves rich in sympathetic fibers, such as the median nerve and the tibial division of the sciatic nerve, and in disturbances of the sympathetic ganglions, such as the sphenopalatine, in which burning and hot and cold sensations are frequently outstanding.

CONCLUSIONS

1. Meralgia paraesthetica is a true traumatic neuritis of the external cutaneous nerve.

2. Sharp angulation of the external cutaneous nerve as it leaves the pelvis is a low grade constant trauma to the nerve, which eventually produces irritation of the nerve and finally physiologic interruption.

3. The syndrome and the mechanism correspond closely with that found in brachial plexus neuritis caused by abnormal angulation of the inner cord over a cervical rib, or ulnar neuritis caused by abnormal angulation of the ulnar nerve at the elbow due to fracture of the humeral condyles.

4. Its treatment consists in section of the nerve at the exit from the pelvis without excision, the nerve ends being left in alinement so that spontaneous regeneration and subsequent nerve lengthening may take place.

5. The term "meralgia paraesthetica" is little known; perhaps less confusion would occur were a more descriptive term, such as "neuritis of the external cutaneous nerve," used instead of "meralgia paraesthetica." Furthermore, the term "algia" is seldom applied when there are objective disturbances in sensation, such as are commonly found in this disease. In conformity with accepted usage, the term "neuritis" and not "algia" should be used.

515 Park Avenue.

Clinical Notes, Suggestions and New Instruments

A NEW FETAL MANIKIN FOR TEACHING OBSTETRICS *

HARRY S. FIST, M.D., LOS ANGELES

Forty years ago, Dr. J. Clifton Edgar,[1] addressing the Section in Obstetrics and Gynecology of the New York Academy of Medicine, described the various manikins and their accessories then used in obstetric teaching, commenting on the necessity for studying models before actually attending

Fig. 1.—Fetal manikin showing how head may be flexed and rotated.

parturient women. He also described a metal pelvis which is very satisfactory for demonstrating normal labor because it clearly indicates the bony landmarks and does not obscure the movements of the fetus.

In 1892,[2] the Long Island College Hospital was using five manikins in teaching the class in obstetrics. Some writers of that day[3] were of the opinion that the use of the manikin was old-fashioned because the Germans, at that time the foremost authorities, were abandoning the manikin and studying live clinic patients. The manikin, however, serves to demonstrate much that cannot be shown on the living patient, and it is today considered one of the best teaching adjuncts.

During the past half-century, the world has experienced a great advance in mechanical knowledge, but obstetric

* Read before the Obstetrical Section, Los Angeles County Medical Association, March 15, 1928.

1. Clifton, E. J.: New York M. J. **52**: 701 (Dec. 27) 1890.
2. Dickinson, R. L.: New York M. J. **56**: 454 (Oct. 22) 1892.
3. Maskoe, J. W., and Lambert, S. W.: Am. J. M. Sc. **108**: 564 (Nov.) 1894.

manikins have remained unchanged. Those devised by Drs. Budin-Pinard, Schultze and Parvin-Edgar, as described by Edgar, are the ones universally used today. The preserved fetal cadaver and the leather manikin still serve to represent the fetus. With these it is possible to illustrate the adaptation of the child to the birth canal, but the manipulation must be from below, and much action is obscured by the hands and body of the demonstrator.

Fig. 2.—Left occiput anterior position. The occiput has rotated to the midline and the head in being born by extension.

The better to illustrate the mechanism of normal labor, I have devised, for use in the department of obstetrics of the College of Medical Evangelists, a fetus,[4] the head of which is manipulated by an external control (fig. 1). It is constructed of leather, much like the fetus in general use, except that the head is fastened to the body by a patented device[5] which is so constructed that the turn of a knob on the end of a flexible cable causes the fetal head to flex, extend or rotate. The fontanels, sutures, face and ears are carved in the wooden head (figs. 1, 2 and 3).

Under the control of the demonstrator, this fetal manikin may be made to progress through the birth canal in much the same manner as the living child. Thus, the head shows flexion, descent, engagement, further flexion at the pelvic floor, internal rotation, extension, restitution and external rotation. The delivery of the shoulders and body may then be completed in the same manner as with any other fetus. The student thus gains a clear conception of the mechanism of normal labor, so that he is prepared for a study of the abnormal.

This new manikin may be used for practicing vaginal or rectal obstetric examinations. Vertex and face presentations may be demonstrated (figs. 1 and 3). It may also be used to illustrate breech extraction, and gradual dilatation of the vulva by alternate advance and retrogression of the advancing head, as well as the effect of good or poor flexion on rotation of the head.

Fig. 3.—Face presentation.

Practically all manikins used thus far have been made in Europe. For some reason, American manufacturers have not undertaken the work. There is great room for improvement in manikins for obstetric teaching, especially the maternal models. The United States possesses the necessary engineering skill, materials and manufacturing facilities, not only for the manufacturing of these devices but also for the greatly needed improvement. While the demand for obstetric manikins is too limited for financial gain, whoever undertakes this work will greatly advance obstetric teaching and practice.

2007 Wilshire Boulevard.

4. Manikin made by George R. E. Milligan Company, 1334 Grand Avenue, Los Angeles.
5. Manufactured in Los Angeles (National Accessories Corporation).

ECTROPION OF THE LOWER EYELIDS FOLLOWING BURNS AND SCALDS: A NEW EARLY PATHOGNOMONIC SIGN

SAMUEL GORDON BERKOW, M.D., PERTH AMBOY, N. J.

Cicatricial ectropion of the lower eyelids is a frequent and serious result of burns and scalds involving the face about the eyes. By no means all burns of this area result in ectropion. When recognized early, before the condition is well established, simple preventive measures may abort the process. Therefore it is important to diagnose this complication at the earliest possible moment. The sign described here is, in my belief, the first positive manifestation of cicatricial ectropion of the lower eyelids, following burn or scald.

Normally, each eyelid is a movable fold consisting of skin, loose connective tissue, muscular tissue, tarsus, fascia and conjunctiva. The conjunctiva lining the lids, along the entire width of the palpebral aperture, lies in apposition to the conjunctiva of the eyeball, with which it is continuous. No space, or interval, forms between the palpebral and the ocular conjunctiva—that is, between the eyelid and the eyeball—on any motion of the eyeball.

Ectropion of eyelid plainly visible in contrast to burned area.

In burns and scalds involving the lower eyelids there is always stiffening of the lids, which may or may not result in ectropion. To determine whether the eyelids are sufficiently involved for cicatricial ectropion to result, the patient is instructed to roll the eyeballs inward and upward; or a finger is placed on the patient's forehead between the eyes, and the patient is instructed to try to look up at the finger. As the eyeballs roll inward and upward, if a space, or interval, forms between a lower eyelid and the corresponding eyeball in the outer (lateral or external) third of the palpebral aperture, and persists as long as the eyeballs are kept in the upward and inward position, cicatricial ectropion is to be expected. Preventive measures should be instituted at once. These failing, there will next be angulation of the involved eyelid, followed by eversion of the ciliated lid margin, and then true ectropion.

OBSERVATION OF POSITIVE REACTION

I have observed a positive reaction in three different cases, and while in two of these ectropion did not result, I ascribe this fact to early passive and active motion and the persistent breaking up of adhesions. The accompanying photograph is of a patient seen in consultation with Dr. Gesswein of Matawan, N. J. The burn of the face involved nearly half the surface of the head, and therefore covered a little more than 2 per cent of the total body surface.[1] A wide space formed between the eyelids and the eyeballs, especially the right lower eyelid and the eyeball, when the eyes were rolled upward and inward, and two days after this sign was observed angulation of the lid occurred. At this stage the condition, I feel, yielded to our treatment.

1. Berkow, S. G.: A Method of Estimating the Extensiveness of Lesions (Burns and Scalds) Based on Surface-Area Proportions, Arch. Surg. **8**: 138 (Jan.) 1924.

It is possible in some cases that the eyelids and eyeballs may remain in apposition along their entire normal contact, and, after first bringing the eyes back to a normal focus, a palpebral-ocular space may result when the eyeballs are rolled upward and to the right or upward and to the left. In this event, it seems, the loss of apposition would be along the inner (nasal) part of the palpebral aperture. This condition I have never observed, and present only because of its apparent probability.

From my observation, it seems just to infer that the space formed between the eyelid and the eyeball in the outer third, on upward and inward rotation of the eyeballs, is the more usual, pronounced and important sign of beginning cicatricial ectropion following burns and scalds involving the eyelids.

PILLOW FOR OPERATIONS ON THE SPINE

M. M. KNOWLES, M.D., AND DOROTHY TYLER, R.N., CHICAGO
Chief Anesthetist and Instructor in Anesthesia, Respectively, Saint Luke's Hospital

In operations on the spine, the position of the patient on the table is one that is not conducive to free movement of the chest and the respirations are more or less interfered with. In our experience we have found that cyanosis occurs in a considerable percentage of these cases at some time during the operation. We have employed ethylene-oxygen in some cases and nitrous oxide-oxygen-ether in others.

Fig. 1.—Pillow covered with rubber sheeting and filled with curled hair.

We felt for a long time that the pressure on the costal cartilages and the compression of the epigastrium were the important factors interfering with respirations. With this in mind we devised the horseshoe pillow shown in the accompanying illustrations. This pillow may be used with or without the Scanlon-Morris head rest. The pillow is made of rubber sheeting stuffed with curled hair.

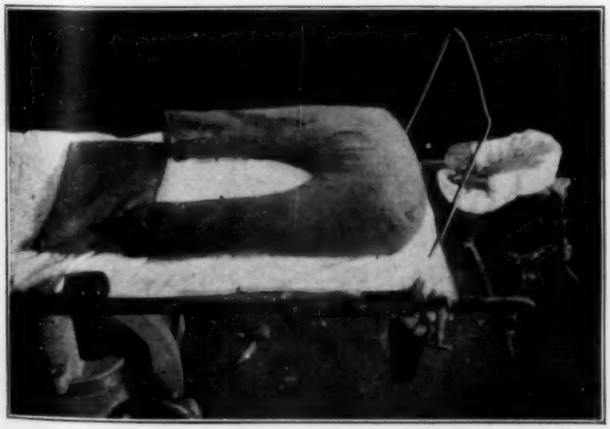


Fig. 2.—Pillow in position on operating table. Head rest and sandbag for pelvis.

It is so designed that the outer margin of the pillow is approximately 3 inches in depth while the inner margin is 2 inches in depth.

It will be seen from the illustrations that the weight is distributed principally over the shoulders and the outer margins of the ribs, leaving the epigastrium and costal cartilages free from pressure.

When the lumbar spine is the site of operation, we have found it convenient to place a sandbag under the pelvis, thereby allowing for free abdominal respiratory movements.

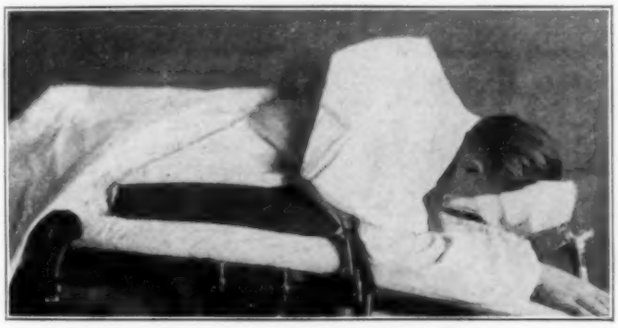


Fig. 3.—Patient placed in position on pillow and head rest for back operation.

Since employing this horseshoe pillow in operations on the spine, we have found anesthesia to be much less labored and more easily maintained at the proper depth without cyanosis.

NASAL AND EYE CHAMBERS FOR THE APPLICATION OF HEAT OR COLD

JAY N. FISHBEIN, M.D., PHILADELPHIA

The nasal chamber was devised for use in nasal conditions requiring external applications of heat or cold. This chamber is made of light copper, shaped to the contour of the nose. It has an inlet and an outlet at the lowest and highest portions of the chamber, to which are connected rubber tubes. About the center of the lower tube is a bulb which, when compressed, creates a vacuum and in this manner fills the chamber. A valve in the bulb prevents its flowing back in the wrong direction. The lower ends of both tubes are weighed down

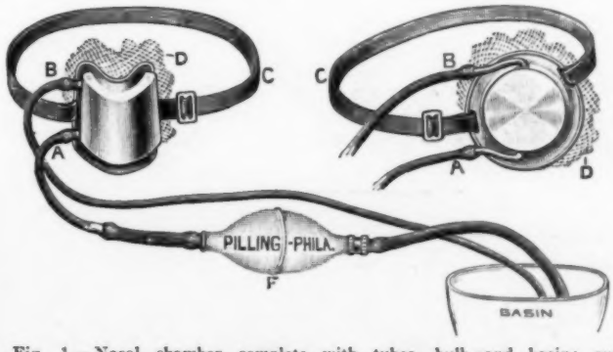


Fig. 1.—Nasal chamber complete with tubes, bulb and basin; eye chamber showing only tubes but similar to nasal chamber. *A*, inlet; *B*, outlet; *C*, elastic band; *D*, gauze; *F*, rubber bulb.

by concealed weights to hold them in the basin. The chamber is kept in position on the nose by an adjustible elastic band around the head, beneath the occiput.

The nasal chamber is useful following intranasal operations, such as submucous resections, turbinectomies and ethmoidectomies. Also, in cases in which ice compresses are indicated, as in plastic operations, it serves to prevent excessive swelling. In nonoperative conditions, as in trauma, it can be used to keep down or reduce inflammation. A small piece of gauze saturated in the solution is placed over the nose, beneath the chamber. The heat or cold is transmitted through this compress. It has been customary to use gauze compresses saturated in the solution and placed on the nose. These dry very soon. The ice compresses become warm in a few minutes, while the hot compresses first scorch the skin and then rapidly loose their heat. Frequent changing is

required. The excess water runs down the patient's face, wetting both the patient and bedding.

A greater degree of heat or cold is supplied to the parts by the nasal chamber, and it tends to maintain an even temperature. The manipulation is simple. The patient or the nurse presses the bulb about every ten minutes, and this changes the water in the chamber. For cold applications, a basin of ice water containing pieces of cracked ice is used.

For hot applications the basin is placed on a heater. It requires so little attention that the patient will use it readily for a long time without finding it tiresome.

It has been customary, following intranasal operations with packing, to place patients in a Fowler or semi-Fowler position. When the patient is in this position, the constant attention of a nurse is required to keep the compresses in place and to renew them. When the nasal chamber is used, the nose is covered more completely, and it can be worn with the patient in any position.

The eye chamber is spherical, about 2 inches in diameter, constructed of light copper, and with the concave surface toward the eye. The rim has a rubber guard, so that no part of the skin is touched by the metal surface. The principle of the rubber tubes is the same as that in the nasal chamber.

It is useful in such conditions as keratitis, iritis, neuritis, styes and cysts, in which hot applications are desirable, or in panophthalmitis, dacrocystitis, or other inflammations in

Fig. 2.—Eye and nasal chambers applied.

which cold compresses are indicated. Several folds of gauze, saturated in the solution used, are placed under the chamber. Additional gauze can be used in cases in which pressure is undesirable. The eye chamber functions in the same manner as the nasal chamber, and has all its advantages.

Graduate Hospital.

UNCOMPLICATED FORWARD LUXATION OF THE ULNA

WILLIAM A. HORAN, M.D., PROVIDENCE, R. I.

Traumatic deformities of the carpus and of the wrist have been discussed so thoroughly and so often that it is with hesitancy that I again bring the subject to the reader's attention.

I was surprised in reviewing the literature and in hunting for a description of uncomplicated forward luxation of the ulna at the wrist to find so little concerning it. The condition was first described probably by Desault and Palletta. Their cases were presented from the dissecting room, without a history. In 1906, Thon described an actual case in detail. Later on, in 1926, Brissett described a similar condition.

There is a great deal to be said concerning this deformity when it is treated secondary to some other condition, and undoubtedly there is a great deal more in the literature concerning the actual deformity that has not come to my attention. The excruciating pain, the extreme disability and the apparent deformity accompanying the condition prompted me to describe the following case:

A white man, aged 36, who had always enjoyed good health, had been able to work strenuously and who had never suffered injury or other condition in or about the wrist, caught his hand between the belt and pulley of a machine, January 2, while at work. The joint was twisted severely into supination before it could be released. He was taken to a physician, who examined the wrist and because of the extreme pain advised roentgen-ray examination. The roentgen-ray report was negative. Immobilization therefore was not considered necessary and the patient was permitted to be about with the arm in a sling. The pain continued until January 24, when he consulted the family physician, who advised a second roentgenogram.

Fig. 1.—Forward luxation of the ulna.

At physical examination, at this time, the patient appeared well developed and well nourished. The arm was in a sling. There was some swelling of the hand, wrist and forearm. The wrist had a peculiar look about it, being more triangular than usual. The radius was easily palpated, but at the usual location of the ulna there was a distinct depression. Beneath and slightly lateral to the inferior surface of the radius was a distinct protuberance, evidently caused by the end of the ulna. Flexion was limited and painful. Extension was limited. Rotation was impossible because of the pain. The hand grasp was poor. Roentgen-ray examination showed

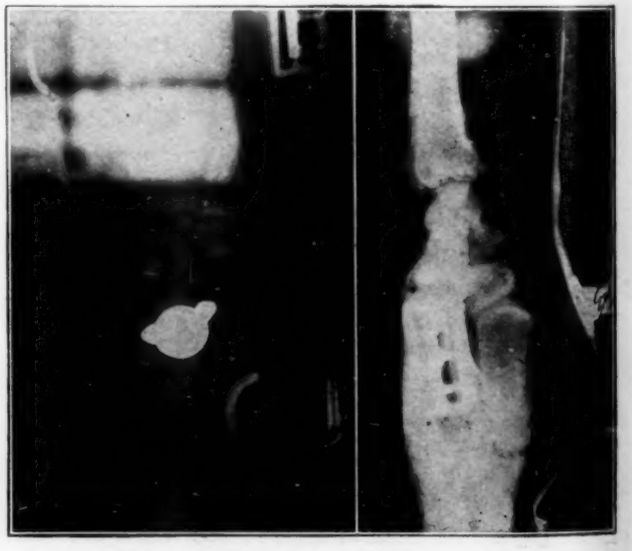


Fig. 2.—Appearance of wrist after reduction.

forward luxation of the distal end of the ulna accompanied with considerable rotation.

The patient was advised to take an anesthetic and have the wrist manipulated. He also understood that if manipulation was not successful in reducing the deformity, he was to be operated on.

Operation took place, February 23. The patient was given an anesthetic and an attempt at reduction was made. This was fruitless. The ulna could not be budged. An incision

was made and the end of the ulna exposed, and by digital pressure an attempt was made to force it into position. Direct pressure was unsuccessful. The bone was finally gripped with bone forceps and easily rotated into position. In about three weeks the splint was removed and passive motion started. This condition lasted about one week, and at the end of this time the patient was instructed to move the hand and wrist and to grasp various light substances.

Recovery was uneventful, and the patient was able to resume work in the course of about eight weeks.

319 Broad Street.

Council on Pharmacy and Chemistry

PRELIMINARY REPORTS OF THE COUNCIL

THE COUNCIL HAS AUTHORIZED PUBLICATION OF THE FOLLOWING REPORT.

W. A. PUCKNER, Secretary.

DEXTROSE SOLUTIONS CONTAINING CRESOL

The Council has considered a communication by Dr. Paul Titus of Pittsburgh objecting to the acceptance for New and Nonofficial Remedies of solutions of dextrose (*d*-glucose) in ampules containing 0.1 per cent of cresol. Dr. Titus, although favoring the use of dextrose solutions put up in ampules, held that injection of cresol into the blood stream is the cause of many reactions which sometimes follow injection of dextrose solutions containing it, and further held that, if a solution of dextrose is properly sterilized and properly transferred into the ampules before sealing the cresol is unnecessary.

After careful consideration of the points raised by Dr. Titus, the Council was of the opinion that the harmfulness of cresol in the amounts used in dextrose solutions had not been demonstrated. Since the work of Voegtlin (Bull. 112, Hyg. Lab., 1918) showed that the addition of as much as 0.5 per cent of cresol to antipneumococcus serum is not dangerous when large therapeutic doses of the serum are given, Dr. Titus was asked to present specific evidence as to the harmfulness of cresol in the amount added to the dextrose solutions accepted for inclusion in New and Nonofficial Remedies. At the same time the Council also wrote to the firms whose cresol-containing ampules were accepted, requesting evidence for the necessity of the addition of cresol to ampules of dextrose solution.

Dr. Titus in reply gave his personal experience of reactions from the use of dextrose solution containing cresol. On several occasions he had used seven or eight ampules at a time with invariably sharp reactions which he ascribed to the cresol content, since he did not have them when using ampules not containing cresol. He mentioned inquiries from others to the effect that they had had the same experience and gave the names of several hospitals which, he stated, had investigated this matter, suggesting that inquiries be sent them. Dr. Titus could not give specific instances, and he offered to undertake a controlled investigation into the effects of the intravenous use of cresol-containing ampules of dextrose.

The Council offered to procure the material required for the investigation proposed by Dr. Titus, and sent inquiries to the hospitals and individuals proposed by him as having special knowledge of the subject.

Replies to the inquiries suggested by Dr. Titus were sent to him, and he wrote to the Council that he believed as a result of these replies that the proposed clinical investigation was unnecessary since from the six responses received two had definitely held cresol to be toxic and a cause of reactions when administered; one hospital superintendent had stated that he knew of no physicians who had had trouble with cresol, but was, according to Dr. Titus, unaware that cresol-containing ampules had been barred by his staff because of having been blamed for reactions; two others attributed reactions to other causes and did not believe cresol to be a factor, while a third had no reason to blame cresol. Dr. Titus asked that the adverse opinion of himself and his associate be considered with the unfavorable replies and proposed that an abstract of the correspondence be published, with a request that others who have had reason to form an opinion on these matters communicate with the Council.

To its request sent the manufacturers for evidence as to the necessity of using cresol in solutions of dextrose in ampules, the Council received replies as follows: One firm offered no argument in favor of the practice. The other firm pointed out that when concentrated dextrose solutions are heated to 100 degrees the hydrogen ion concentration is changed markedly to the acid side and that the injection of such acid solutions is likely to cause reactions; that it is necessary, therefore, to buffer the solutions before injection, a process which is not feasible before sterilization because the solutions then turn yellow; that if 0.1 per cent of cresol is added to the solution it is not necessary to heat it to so high a temperature for sterilization and that decomposition in this case does not occur. This firm stated that for large doses a non-cresol-containing solution was offered, but that the injection of small doses does not occasion the same problem as that which arises when large doses are used.

After reviewing the replies to the several inquiries, the Council concluded that although the theoretical opinion was expressed that cresol might be harmful—this opinion being expressed by some who had never used cresol—those who have used the dextrose solution containing cresol (excepting Dr. Titus and his associate) have stated that they have seen no harm resulting from its use. With reference to the manufacturer's contention, it was pointed out that New and Nonofficial Remedies lists a number of dextrose ampules which contain no preservative, and furthermore that one of the firms which markets a dextrose ampule containing cresol finds it feasible to market one which does not contain this or any other preservative.

The Council directed that for the information of the profession this discussion of the use of cresol as a preservative for dextrose solutions intended for intravenous use be published, and that the firms using cresol as a preservative in such solutions be requested to consider the elimination of this constituent as possibly harmful.

NEW AND NONOFFICIAL REMEDIES

THE FOLLOWING ADDITIONAL ARTICLES HAVE BEEN ACCEPTED AS CONFORMING TO THE RULES OF THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION FOR ADMISSION TO NEW AND NONOFFICIAL REMEDIES. A COPY OF THE RULES ON WHICH THE COUNCIL BASES ITS ACTION WILL BE SENT ON APPLICATION.

W. A. PUCKNER, SECRETARY.

STEARODINE.—Calcium Iodostearate.—$[CH_3(CH_2)_7CHI(CH_2)_8CO_2]_2Ca$.—It contains from 26 to 28 per cent of iodine in organic combination.

Actions and Uses.—Stearodine is used as a substitute for the inorganic iodides, over which it is claimed to have an advantage in that it is longer retained and therefore better utilized. See Iodized Fats and Fatty Acids, New and Nonofficial Remedies, 1928, p. 212.

Dosage.—For prophylaxis of goiter, 0.01 Gm. weekly or biannual series of six weeks' treatment consisting of 0.01 Gm. daily.

Manufactured by Parke, Davis & Co., Detroit. No U. S. patent or trademark.

Stearodine Tablets: Each contains stearodine, equivalent to 0.01 Gm. of iodine. This dosage form is used only for prophylaxis against goiter and for the treatment of simple goiter.

Stearodine is a cream colored solid, almost odorless, insoluble in water, soluble in chloroform, ether and benzin.

When stearodine is agitated with diluted nitric acid, the filtrate responds to tests for calcium. When a small quantity of stearodine is warmed with strong sulphuric acid, violet vapors of iodine are evolved.

Agitate about 1 Gm. stearodine with diluted nitric acid: the filtrate is not rendered distinctly turbid by the addition of silver nitrate solution (*absence of inorganic iodide*).

Mix about 0.1 Gm. of stearodine, weighed accurately, with 2 Gm. of sodium hydroxide in a nickel crucible and fuse the mixture gently. Allow the fusion to cool somewhat; add 8 Gm. of fusion mixture (sodium carbonate, potassium carbonate and potassium nitrate) and heat strongly until a clear liquid results. Allow the fusion to cool, dissolve the mass in 250 cc. of water; add 30 cc. sodium hypochlorite solution containing 2.5 per cent available chlorine; after five minutes acidify with an excess of phosphoric acid and heat until all free chlorine has been expelled; add an excess of sodium iodide and titrate the free iodine with tenth normal sodium thiosulphate: each cubic centimeter of tenth normal sodium thiosulphate consumed corresponds to 0.0126 Gm. of iodine; the iodine content found is not less than 26 per cent and not more than 28 per cent.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

535 NORTH DEARBORN STREET - - - CHICAGO, ILL.

Cable Address - - - - "Medic, Chicago"

Subscription price - - - - - - Five dollars per annum in advance

Please send in promptly notice of change of address, giving both old and new; always state whether the change is temporary or permanent. Such notice should mention all journals received from this office. Important information regarding contributions will be found on second advertising page following reading matter.

SATURDAY, MAY 26, 1928

THE SENATE RECOGNIZES THE RIGHTS OF THE PHYSICIAN

The proposal to increase the tax on physicians, dentists and veterinarians under the Harrison Narcotic Law from $1 to $3 a year was overwhelmingly rejected by the United States Senate on May 15. Three days later, the Senate again overruled its Committee on Finance when, by a vote of fifty-nine to thirteen, it amended the revenue bill so that, in computing their federal income taxes, physicians and other professional men may deduct the expenses incurred in attending conventions of professional organizations. No doubt, by the time this issue of THE JOURNAL is received, the House of Representatives will have concurred.

The adoption of these actions by such decisive votes may be considered an impressive recognition of the equity of the claims made by the American Medical Association and by many local medical organizations, as presented in the various editorials that have been published in THE JOURNAL. The presentation of these questions to the United States Senate was led by Senator Royal S. Copeland, New York, in the absence from Washington of Senator Arthur R. Robinson, Indiana, who had originally presented the amendment for the right to deduct traveling expenses. Senator Copeland fought earnestly and intelligently for these rights. In the matter of the tax under the Harrison law he was ably seconded by Senator Simmons of North Carolina. In relation to the other amendment, Senator Kenneth McKellar, Tennessee, said:

> As we all know, nearly every year the accomplished and ambitious doctor, at his own expense, goes to these conventions; and frequently goes to colleges and takes postgraduate courses, in order to keep up with his profession, so that he may be able to give to human kind the best service of which he is capable. In thus preparing himself to aid his fellow man it does seem to me that we ought to credit him with those expenses on his taxable income. . . .
>
> I think that class of our professional men who come nearest to the people in their lives and homes and families, especially in sickness, ought to be encouraged in every way to keep up with the advances in science; and I think they might be encouraged by the government to the extent of allowing them a credit on their incomes for the expenses to which reference has been made.

Senator A. W. Barkley, Kentucky, urged that it was in the public interest that physicians take time each year better to prepare themselves to minister to the wants of humanity. Furthermore, Senator Caraway, Arkansas, pointed out that physicians do more charity than all other bodies of professional men combined, and that the physician constantly holds himself ready to answer to the call of humanity. Most of the attack on the medical profession was led by Senator Smoot, who at the end of the debate on the Harrison law tax fired a parthian shot: "I congratulate the doctors upon being the most persistent and best propagandists among all classes of people in the United States."

Recognition by the United States Senate of the service of medicine to the American people and of the justice of the claims advanced by the American Medical Association and by its constituent organizations is a recognition also of the influence of our profession in national affairs. The responsibility is one which the medical profession must assume with solemnity. In legislative policy and program, we must continue so far as is humanly possible to bear in mind that a policy is not sound from the point of view of the medical profession unless it is sound also for all the people of the country. Our attention must be devoted to the great principles underlying health and the control of disease and not be frittered away on matters of minor importance.

Senator Smoot's tribute is gratifying. He deserves our thanks for the compliment.

MARTYRS OF MEDICINE

The rolls of medicine contain the names of many practicing physicians and investigators who have died as a result of voluntarily submitting themselves to disease in their search for methods to relieve suffering and to prevent death. The martyrs of medicine whose names remain buried in human neglect might be numbered in the thousands; yet the search for the unknown causes of disease goes on unremittently. Physicians and scientists in chemistry, physics, bacteriology and toxicology expose themselves again and again to death or to lingering disease, knowing the peril but devoted to the ideals of their professions and to the pursuit of knowledge.

Hideyo Noguchi, noted Japanese investigator, died of yellow fever on the gold coast of Africa, May 21, while completing his researches on that disease. Last September, Dr. Adrian Stokes, born in France and educated in England, and still later associated with the Rockefeller Foundation, died of yellow fever in the same territory while studying the epidemic to which Noguchi was devoting his attention. Dr. Stokes was only 40 years of age. During the World War, this young investigator had isolated from the blood stream the organism of gas gangrene. To the last moment of his life, he was dominated by his scientific ideals,

remaining interested in the scientific aspects of his illness until he passed into unconsciousness. Shortly after he became ill, he requested that a careful postmortem be made of his body if he died, and he repeatedly contributed blood so that animals might be inoculated and the disease studied further.

The roll of medical martyrs, beginning with Servetus and Semmelweis, who died for their opinions, includes, as listed by Garrison in the forthcoming edition of his notable History of Medicine: Daniel A. Carrion (verrugas), Jesse W. Lazear (yellow fever), Alexander Yersin and Hermann Franz Müller (bubonic plague), Tito Carbone (Malta fever), Allen MacFadyen (typhoid and Malta fever), J. Everett Dutton (African relapsing fever), Howard Taylor Ricketts (typhus), Bacot (typhus fever), Thomas B. McClintick (Rocky Mountain fever), William Ironside Bruce (aplastic anemia), Pirrie (kala azar) and Gaspar Vianna of Brazil (postmortem sepsis). All these men lost their lives in investigating the diseases with which their names are associated. Almost coincidently with Röntgen's announcement of the x-ray, Albers-Schönberg, in Germany, began his series of experiments. Schönberg died of cancer after suffering repeated mutilations due to the effects of the x-ray. Among others who had anywhere from five to thirty operations as a result of similar investigations and who died eventually of x-ray cancer were Drs. Bergonié, Spence, Blackall, Hall-Edwards and Menard. Associated with these men were many technicians whose lives also were sacrificed to their studies. In this country, numerous physicians who devoted themselves to roentgenology before all of the associated dangers were known have died and continue to die from x-ray cancer.

To this list of physicians must be added also the names of many men who have submitted themselves to inoculation in association with the study of dengue fever, of influenza, of measles and of scarlet fever in order that more might be known concerning these conditions. The names of such famous investigators as John Hunter, Hammond, Carroll, Halstead and Henry Head are included in the list of those who have run definite risks by experimenting on themselves but who recovered from the experimentation.

The prizes that the world awards for such self sacrifice and martyrdom are not great. The public has not yet learned to appreciate the type of courage that such men display. The investigative spirit that drives them is little understood by the average man. Indeed, few appreciate the type of mind that caused physicians in the past to suck the infectious membrane from the throats of children strangling with diphtheria, that caused hundreds of physicians to expose themselves to smallpox, to plague and to influenza in their devotion to duty. Such martyrs are merely living up to the traditions of their calling established thousands of years ago. The death of an investigator like Noguchi, whose value to humanity is incalculable, serves but as an opportunity again to remind the public of the trials that medical men undergo and of the service that they render.

PROTEIN RESERVES AND THE NITROGEN MINIMUM

The intake of a surplus of carbohydrates or fats usually leads to the storage of glycogen, fats or both in the body. They represent reserves of energy that can be drawn on in times of caloric need. The depletion of these stores is a familiar phenomenon under conditions of partial or complete starvation. Protein is popularly supposed to lack an analogy with the well known storage of the non-nitrogenous nutrients. Consequently, deprivation of protein is assumed to be particularly detrimental because it is commonly believed to result in more or less actual disintegration of protoplasmic, that is, protein-containing cells and tissues to meet the enforced requirement. The situation in protein starvation thus represents an exaggeration of the wear and tear incident to the daily metabolic changes.

Years ago the Munich physiologist Carl Voit insisted that not all protein in the body could be included in one functional category. He introduced the expression "circulating protein" to represent an easily used quota of protein that is called on first in fasting or starvation. The proteins of the blood do not conform to such a change. His pupil Lusk has asserted that Voit's term is, generally speaking, a misnomer, yet it served the useful purpose of sharply differentiating the more resistant behavior of living tissue protein from that of ingested protein, and from the material now known as "deposit protein," ingested protein being more readily, and deposit protein readily, metabolized.

A well recognized persistent type of protein storage occurs, as has frequently been pointed out, only under the following conditions:[1] in the growing body (or in pregnancy) where new tissue is being constructed; in cases in which increased muscular exercise results in enlargement of the muscles; in instances in which, owing to previous insufficient feeding or to wasting disease, the protein content of the body has been more or less diminished and consequently any surplus available is utilized to make good the loss. This is, however, something quite different from what is meant by "deposit" protein. The quantity of the latter has lately been indicated to be considerably larger and more important than heretofore supposed;[2] and there is now some evidence that its metabolism follows the same laws as that of exogenous protein metabolism. The

1. Sherman, H. C.: Chemistry of Food and Nutrition, New York, Macmillan Company, 1926.
2. Boothby, W. M.; Sandiford, Irene; Sandiford, Kathleen; and Slosse, J.: The Effect of Thyroxin on the Respiratory and Nitrogenous Metabolism of Normal and Myxedematous Subjects, Tr. A. Am. Phys. **15**: 195, 1925.

latter represents the destruction of ingested protein in contrast with the endogenous protein metabolism concerned with changes in the living protoplasm. In the endogenous type, creatinine and purines come into expression; in the other, primarily urea.

How large the reserve or deposit protein may actually be has lately been demonstrated in experiments on man at the Mayo Foundation.[3] A person was maintained on a nitrogen-free diet rich in carbohydrate during a period of more than two months. Under these conditions a minimum output of nitrogen in the urine is presently attained, represented in this case by the lowest figure on record, 1.75 Gm., or 0.024 Gm. for each kilogram of the subject's body weight. As soon as he began to take the protein-free diet there was an immediate and progressive decrease in the quantity of total nitrogen in the urine. During the first eight days, this decrease was rapid. From the ninth day on, the decrease was much more gradual and irregular with two or three periods of increased nitrogen elimination, each successive increase being smaller than the preceding one. The sharp drop on the ninth day suggests that there are two types of deposit protein: one which is readily available and extravagantly destroyed and the other which is less readily available and more economically used. Such an hypothesis is in line with the implied assumption of Rubner that there are two types of deposit protein: "Vorratseiweiss" and "Uebergangseiweiss," the former corresponding to Voit's "circulating protein." The new results support the idea of two types of deposit protein, at least as regards their physiologic availability.

According to the extended Rochester observations, the quantity of reserve or deposit protein is much larger than generally believed. A loss of nitrogen amounting to 291 Gm., equivalent to 12 Kg. of tissue—in this instance 16 per cent of the original body weight—was actually measured. Furthermore, in all probability the deposit protein at the end of the experiment was by no means exhausted and an unknown but considerable amount still remained in reserve.

Lest it be assumed that serious consequences attend such depletion of nitrogen reserves, the investigators report that no noticeable physiologic disturbances resulted from the prolonged ingestion of protein-free food other than the nausea occasioned toward the end of the period by the monotony of the diet. The fact that large quantities of deposit protein amounting to 141 Gm. of nitrogen were eliminated after the daily urinary nitrogen had been reduced to 2.10 Gm. on the thirtieth day of the experiment is significant. It must be concluded that the excretion of small quantities of nitrogen is not necessarily indicative of a great reduction in the quantity of deposit protein, at least in the sense that the body cannot continue to maintain itself for a further period on a nitrogen-free diet.

The best proof that there was not any violent upset in the fundamental metabolism is to be found in the partition of nitrogen in the urine. The endogenous components were not increased as might have been expected. Despite variations in the total urinary nitrogen from 10 to 1.75 Gm. daily, the output of creatinine and uric acid, as well as neutral sulphur and ethereal sulphate, remained extremely constant. The amino-acid and undetermined nitrogen were quite constant. The fluctuation in total nitrogen was almost entirely due to variations in the amount of urea excreted. The true endogenous metabolism in the case of a normal adult man is slightly less than 1 Gm. daily. Surely we need no longer worry lest a few days' shortage of nitrogen in the intake will lead to a prompt nutritive debacle so long as the supply of the other essentials is not threatened.

3. Deuel, H. J., Jr.; Sandiford, Irene; Sandiford, Kathleen; and Boothby, W. M.: A Study of the Nitrogen Minimum: The Effect of Sixty-Three Days of a Protein-Free Diet on the Nitrogen Partition Products in the Urine and on the Heat Production, J. Biol. Chem. **76**: 391 (Feb.) 1928.

Current Comment

THE PARATHYROIDS AND THE HEALING OF FRACTURES

The active development of the physiology of the parathyroid glands is so recent that the statements of yesterday may call for revision today. Not long ago the consensus would probably have been interpreted in favor of the view that the chief function of the parathyroids lies in detoxication. This was predicated on the assertions that, when the structures are removed or rendered inefficient, toxic substances such as guanidine seem to accumulate in the tissues so as to produce nervous excitability and the syndrome of tetany. Meanwhile a growing realization of the relation of the parathyroids to calcium metabolism has developed, culminating in the demonstration by Collip[1] in 1925 that administration of suitable extracts of the glands relieves tetany, increases the calcium content of the blood, and prolongs life in parathyroidectomized dogs. Such aspects of parathyroid function inevitably directed attention to their possible relation to the growth of the bones—structures extensively concerned with the calcium changes in the organism. It became conceivable, on the one hand, that deficiency in parathyroid activity might lead to detrimental changes in the skeletal structures; and, on the other, that appropriate therapy with a parathyroid hormone might promote osseous changes of one sort or another. In the Department of Physiology and Experimental Medicine at McGill University, Montreal, Ross[2] has now actually demonstrated in experiments on animals something of the relation of the parathyroids to the healing of fractures. He found that the removal of two of the four parathyroids does

1. Collip, J. B.: The Extraction of a Parathyroid Hormone Which Will Prevent or Control Parathyroid Tetany and Which Regulates the Level of Blood Calcium, J. Biol. Chem. **63**: 395 (March) 1925. Collip, J. B., and Clark, E. P.: Further Studies on the Physiological Action of a Parathyroid Hormone, ibid. **64**: 485 (June) 1925.

2. Ross, D. E.: Relation of the Parathyroids to the Healing of a Fracture as Controlled by the Roentgen Rays, Arch. Surg. **16**: 922 (April) 1928.

not delay the union of fractures. The removal of three parathyroids delays bony union for as long as from four to five weeks. The excision of two parathyroids does not diminish the blood calcium level, while the excision of three parathyroids causes a drop of from 2 to 3 mg. of calcium per hundred cubic centimeters of serum. When the blood calcium returns to the normal level, bony union of the fracture occurs. Such studies represent the preliminaries to further attempts to establish a possible rational parathyroid therapy. Scarcely three years ago, in decrying the flimsy foundation of the recommendation then current for the use of parathyroid medication in all sorts of conditions, a reviewer [3] in a series of articles prepared under the auspices of the American Medical Association remarked that one must look askance at the reports then current until there is available a pure and active preparation of the parathyroid glands (if such exists), susceptible of successful use in substitution therapy after adequate removal of parathyroid tissue, and also of being biologically standardized. Meanwhile preparations have become available; [4] yet the warning of the Council on Pharmacy and Chemistry remains cogent: the available clinical or scientific evidence does not permit an estimate of the ultimate usefulness of the parathyroid preparations. The near future should furnish evidence regarding their use in many different conditions. The danger of hypercalcemia, which is easily induced by overdosage with an active preparation, makes it imperative that clinical studies should be carefully controlled by accurate determinations of the serum calcium.

TULAREMIA IN BIRDS

The increasing number of reports with regard to the occurrence of tularemia is stimulating a widespread interest in this infectious disease and particularly the possibilities of its transmission to man. Wild rabbits and ground squirrels have long since been found infected in nature, and transmission has been effected to other species under laboratory conditions. Only a few weeks ago, attention was directed in these columns to the discovery of *Bacterium tularense* in naturally infected wild mice in California.[5] It was pointed out that the meadow mice involved harbor mites through which the distribution of tularemia is made possible. A new possible menace has just been reported from Minnesota by Green and Wade [6] of the state board of health. They report that the diminution in number of wild rabbits and ruffed grouse has occurred simultaneously in Minnesota during the last four years. Human cases of tularemia have appeared in Minnesota during the same period. The occurrence of specific agglutinins in the blood of many of the wild rabbits still remaining points to tularemia as the cause of the disappearance of the rabbit. Accordingly, the susceptibility of the ruffed grouse to tularemia has been studied, as it was felt that there was some relationship between the disappearance of grouse and the disappearance of the rabbit. The Minnesota experts have demonstrated that the rabbit tick *Haemaphysalis leporis-palustris* is an important carrier of tularemia, and further pointed out that this parasite is found on both rabbits and game birds. There is therefore a possible natural carrier of the disease between rabbits and grouse. Experiments actually showed that the ruffed grouse succumbs to an experimental infection with *Bacterium tularense* with the same regularity as the guinea-pig and the rabbit. Thus the occurrence of tularemia in grouse as a natural disease is a probability. Green and Wade remark that, if the disease does occur as a natural infection in grouse, its presence might easily be overlooked at necropsy by the absence of gross lesions of the disease. It appears that no well defined human cases of tularemia have been reported as the result of cleaning grouse. This would not invalidate the possibility of the natural infection of grouse, as few such birds are killed and cleaned compared with the number of rabbits. They add that the indications justify a diligent search for tularemia in grouse dying from disease. As Green and Wade point out, *Bacterium tularense*, already of great importance because of its ability to produce infections in numerous species of mammals, becomes even more remarkable by its ability to produce at least experimental infection in birds.

3. McCann, W. S.: Parathyroid Therapy, in Glandular Therapy, Chicago, American Medical Association, 1925.
4. New and Nonofficial Remedies, 1928, p. 299.
5. Tularemia Among Meadow Mice, Current Comment, J. A. M. A. **90**: 986 (March 24) 1928.
6. Green, R. G., and Wade, E. M.: Ruffed Grouse Are Susceptible to Tularemia, Proc. Soc. Exper. Biol. & Med. **25**: 515 (April) 1928.

Association News

THE MINNEAPOLIS SESSION

Golfing Tournament

The Fourteenth Tournament of the American Medical Golfing Association will be held at the Minneapolis Golf Club, Minneapolis, Monday, June 11. Entries for this tournament will close, June 1. All communications concerning the tournament should be addressed to Elizabeth Romel, Evanshire Hotel, Evanston, Ill., until June 1, after which date communications should be addressed to Dr. William H. Aurand, 823 Nicollet Avenue, Minneapolis, Minn., Secretary of the Local Committee of Arrangements.

The Local Committee has made arrangements for the use of the Superior Golf Club in addition to the Minneapolis Golf Club, if the entry list is large. These clubs are so near together that transportation will be easily arranged.

The Minneapolis Golf Course is a sporty one and is in excellent condition. The Superior Golf Club is comparatively new, but the fairways and greens are in fine condition. There are plenty of water hazards in this course.

There will be seven events, with an appropriate trophy awarded the winner of each. A new event of special interest this year is the Maturity Event, limited to Fellows over 60 years of age. For this the Minneapolis hosts have generously donated a beautiful trophy to be known as the Minneapolis Trophy. Following the tournament the usual golf dinner will be held in the new club house of the Minneapolis Golf Club.

In Minneapolis and St. Paul there are fifteen private eighteen hole courses which may be used by members of the American Medical Association. In addition there are seven public courses of eighteen holes which are open at all times. Transportation facilities have been arranged and a set fee will be decided on for taxi fare to every golf club.

A representative of the local golf committee will be on duty at the registration booth in the Auditorium. Only this individual will issue golf playing privileges during the week of the convention, and these will be given only to members who have registered.

Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST: SUCH AS RELATE TO SOCIETY ACTIVITIES, NEW HOSPITALS, EDUCATION, PUBLIC HEALTH, ETC.)

CALIFORNIA

Society News.—Dr. Leo L. Stanley, San Rafael, addressed the Fresno County Medical Society, April 3, on the medical work being done at San Quentin Prison, where he has been prison physician for fifteen years. The routine work in the prison hospital is done largely by inmates trained in laboratory and roentgen-ray work and nursing.——Lowell J. Reed, Ph.D., professor of vital statistics and biometry, Johns Hopkins University School of Hygiene and Public Health, Baltimore, will give a course for public health workers at the summer session of the University of California, Berkeley, July 2-August 11. Special arrangements for attending may be made by visitors who pay the registration fee.

Physicians Help Endow Medical School.—The University of Southern California plans to ask the medical profession of Southern California to raise $500,000 for the endowment of the new medical school which will open in September. Already $40,000 has been pledged by members of the Los Angeles County Medical Association. Subscriptions are payable over a period of five years. The average subscription to this fund is $500. An entire new faculty is to be appointed in the reopening of the medical school. The appointment of the full-time professors for the preclinical work will be made in the next few months. Only the first year of medicine will be offered beginning this fall, and a year will be added each year until the fall of 1931, when the full four-year course will be available.

New Zealand Dental Expedition.—The University of California College of Dentistry is making plans for a teaching expedition to New Zealand, at the request of the New Zealand Dental Association, for the summer school there. It was planned to send a team of five instructors to conduct a summer course in dentistry, comprising three practitioners from the faculty, a radiographer from San Francisco and a practitioner from Sacramento, and to take along dental equipment and apparatus. The New Zealand Dental Association has cabled a request that the party be increased to six, for which it will pay the expenses. The party will leave the last of May from San Francisco. The teaching will be done during the period June 25-June 30, and about 200 practicing dentists of New Zealand will attend.

CONNECTICUT

Professors' Salaries Increased.—It was announced, May 15, that the Yale University Corporation, New Haven, had raised the minimum salary of professors to $6,000 and increased salaries of assistant and associate professors by $500. The increase involves an additional annual expenditure of $168,000. As further payments to the Yale Endowment Fund are received, the corporation expects that further increases in salaries will be made and that eventually the Yale salary schedule will be on a parity with those of other American universities.

Yale Awards 146 Fellowships and Scholarships.—The graduate school of Yale University, New Haven, has awarded for the year 1928-1929 fellowships and scholarships representing income on endowment and gifts amounting to $2,000,000. Thirty-five of the awards will be held by students who already have the Ph.D. degree or who have done an equivalent amount of work. Among the awards is the Alexander Brown Coxe Memorial Fellowship for research in the biologic sciences to Dr. Ezra A. Sharp, who will work in the field of clinical immunology and pathology on "The Rôle of Allergy in Pneumococcus Pneumonia." Two fellowships have been awarded by the National Tuberculosis Association, one to Alice G. Renfrew, Ph.D., for research on the tubercle bacillus for a second year and one to Elizabeth Gilman, who begins work in September. Elizabeth E. Lord will continue her research in the Yale Psycho-Clinic on mental development of children under 6 years with injury to the nervous system. Charles W. Rees, Ph.D., will work on the pathogenesis of intestinal amebiasis in kittens in the department of pathology. Some other fellowships bear indirectly on the medical sciences. The recipients included thirteen foreign and Canadian students.

IDAHO

Society News.—Dr. John C. Landenberger, Salt Lake City, addressed the Pocatello County Medical Society, Pocatello, recently, on "Fractures of the Spine and Pelvis," illustrated; physicians were present from Blackfoot, Idaho Falls, Sutton, West, Hatch, Hollister and Pocatello.——Dr. Charles F. Ensign of the veterans' hospital at Boise addressed the South Side Medical Society, Twin Falls, March 7, on "Tuberculosis."——Dr. Frank B. Brewer, officer in charge of the veterans' hospital at Boise Barracks, has been elected president of the Boise Rotary Club.

ILLINOIS

State Medical Election.—At the annual meeting of the Illinois State Medical Society, Chicago, May 8-11, Dr. John E. Tuite, Rockford, was installed as president; Dr. Frederick O. Frederickson, Chicago, was made president-elect; Drs. James P. Simonds, Chicago, and Everett P. Colman, Canton, vice presidents; Dr. A. J. Markley, Belvidere, treasurer, and Dr. Harold M. Camp, Monmouth, secretary, reelected.

Medical Reserve Corps Items.—The secretary of state has been requested to issue a letter of credentials to Dr. Gilbert Fitzpatrick, Chicago, lieutenant colonel, medical reserve corps, designating him as unofficial representative of the medical department, U. S. Army, at the International Congress of Tropical Medicine and Hygiene to be held in Cairo, Egypt, December 15. The following reserve officers have been ordered to active duty for training at Fort Sheridan: Col. Gustavus M. Blech, Chicago; Lieut. Cols. William A. N. Dorland, Chicago, and James H. Riffey, Girard; Majors Robert S. Gregg, Chicago, and Sandor Horwitz, Peoria; Capts. Samuel C. Woldenburg, Chicago, Arnold W. Garlitz, Lake Forest, and Arthur W. Lovene, Poplar Grove. Dr. Fred C. Zapffe, Chicago, has resigned his commission as major in the reserve corps of the army, and accepted a commission as surgeon with the rank of lieutenant commander in the reserve corps of the U. S. Navy. The President has accepted the resignation of the following reserve officers: Major Frank G. Connell, Oshkosh, Wis., Capt. Russel A. Rath, Granton, Wis., and Lieuts. Roland O. Sala, Rock Island, Thomas R. Rees, Ironwood, Mich., and Christoph C. Reinke, Milwaukee.

Chicago

Hospital News.—A campaign is being conducted for funds to construct the new Pentecost Hospital for negroes, which will be on the south side. It is to be a Catholic sisters' hospital; Cardinal Mundelein, who gave $5,000, made the first contribution.——The new $600,000 Woodlawn Hospital, Sixty-First Street and Drexel Avenue, was opened, May 23. It has a capacity of 140 beds and is said to be owned by 500 persons, of whom fifty are physicians.

Naturalization of World War Veterans.—Veterans of the World War who reside in the United States and have honorable discharges from the army may become naturalized citizens without proving five years' residence in the country and one year in the state. The Immigrants' Protective League of Chicago urges veterans who have not been naturalized to apply for their papers before May 26. Affidavits of two citizens, identifying the applicant, must be submitted to the naturalization bureau, room 776 in the postoffice building, together with the discharge papers. The act of Congress of March 6, 1924, providing for naturalization in this manner, has been extended to May 26 of this year, after which time alien veterans will have to go through the same procedure as other aliens.

Society News.—A symposium on the toxic thyroid will be presented before the Chicago Society of Internal Medicine, City Club, May 28, by Drs. Joseph L. Miller, Anton J. Carlson, Charles A. Elliott, Harry M. Richter and Edward L. Jenkinson. ——Dr. Clarence A. Earle, Des Plaines, addressed the Chicago Medical Society, May 23, on "Reliability of the Schick Test and Duration of Natural and Artificial Immunity in Diphtheria," and Dr. Clement L. Martin on "Premalignant Disease of the Sigmoid and Rectum."——Dr. Albert E. Bulson, Jr., Fort Wayne, Ind., addressed the Physicians' Fellowship Club, May 25, on "Medical Economics or the Physician as the Goat." ——The medical staff of the University of Illinois School of Medicine gave a dinner at the Medical and Dental Arts Club, May 25, for the senior class.——A joint meeting was held at the City Club, May 25, under the auspices of the Institute of Medicine and the Society of Experimental Biology and Medicine of Chicago devoted to the presentation of work by Chicago investigators. The program included nine presentations from the University of Chicago, University of Illinois and North-

western University.——The dermatologic department of Northwestern University gave a dinner to Dr. and Mrs. Arthur W. Stillians, May 14, at the Medical and Dental Arts Club prior to their departure for Berlin and Vienna.——Dr. William A. Evans, professor of public health, Northwestern University Medical School, was guest of honor at the opening exercises of cancer week in Boston, April 23; his subject was "Cancer Control."——Dr. George F. Dick addressed the Central Tri-State Medical Society, Huntington, W. Va., April 19, on "Control of Scarlet Fever."

IOWA

Alumni Meeting.—An extensive program of entertainment has been provided for the meeting of the Alumni Association of Keokuk Medical College and the College of Physicians and Surgeons, Keokuk, June 7-8. At the 1927 meeting of the alumni, about one in four of all living graduates from many states attended. The new dean of the State University of Iowa College of Medicine, Iowa City, Dr. Henry S. Houghton, and Drs. Charles E. Ruth, Des Moines, Frank B. Dorsey, Sr., Keokuk, and Bruce L. Gilfillan, Keokuk, will address this meeting.

KANSAS

Health at Kansas City.—Telegraphic reports to the U. S. Department of Commerce from sixty-six cities with a total population of about 30 million, for the week ending April 28, indicate that the highest mortality rate (23) was for Kansas City, and that the mortality rate for the group of cities as a whole was 14.8. The mortality rate for Kansas City for the corresponding week last year was 12, and for the group of cities, 13.5.

State Medical Election.—At the annual meeting of the Kansas Medical Society, Wichita, May 8-10, Dr. Louis F. Barney, Kansas City, was elected president-elect, Dr. Edgar C. Duncan, Fredonia, vice president and Dr. George M. Gray, Kansas City, was reelected treasurer. Drs. John A. Dillon, Larned, Francis A. Carmichael, Osawatomie, and John F. Hassig, Kansas City, were elected delegates to the American Medical Association. The next annual meeting will be in Salina. Dr. Hassig is the secretary.

MARYLAND

Hospital to Close.—The Colonial Hospital, Baltimore, known during the World War as the Morrow Hospital, when in use by the U. S. Public Health Service, will close, June 1. The owner has decided to limit his work to private practice and to sell the three hospital buildings and their equipment. Admission of patients was stopped, May 1.—— The Henry Phipps Psychiatric Clinic celebrated its fifteenth anniversary, April 30.

Personal.—Dr. Thomas R. Brown, Baltimore, has been reelected president of the Johns Hopkins Medical Alumni Association.——Dr. Perry F. Prather, Hagerstown, has been reappointed health officer of Washington County.——Dr. William S. Thayer, President-Elect of the American Medical Association, was a delegate to the Harvey Tercentenary celebration in London in May, and, together with about 100 delegates from various parts of the world, paid tribute to the memory of the discoverer of the circulation of the blood.

Mycologic Library Given to University of Michigan.—Dr. Howard A. Kelly's mycologic library, said to be the most complete and valuable of its kind privately owned in the United States, has been offered to the regents of the University of Michigan and accepted. Calvin H. Kauffman, Ph.D., professor of botany and director of the herbarium at the University of Michigan, is in Baltimore to arrange for the removal of the library to Ann Arbor. The collection will be called the Louis C. C. Krieger Mycological Library and Collection Herbarium at Dr. Kelly's request to memorialize the Baltimore artist and mycologist who gathered the library during the last ten years for the surgeon. The collection will be housed in a new $800,000 building with three other collections pertaining to the natural sciences.

Course for General Practitioners.—The University of Maryland, through the division of medical extension, offers a course, from June 4 to 23, designed to train general practitioners in methods of diagnosis and treatment in use at the university clinics. Most of the time will be devoted to general medicine, but surgery and the specialties will be included. The class will be divided into groups for ward rounds in the University, Mercy and City hospitals. There will be a daily clinic in the University Hospital amphitheater. The groups will rotate in the dispensary clinics for pediatrics, gastro-intestinal diseases, genito-urinary diseases and syphilis. Instruction in laboratory diagnosis will be given in the afternoons with demonstrations of technic and indications for the use of such procedures as transfusion, venesection and infusion. Inquiries should be addressed to the dean of the medical school, University of Maryland, Baltimore. Registrants from Maryland will pay a matriculation fee of $25; those from other states, $50.

MICHIGAN

Society News.—Dr. Reuben Peterson, professor of obstetrics and gynecology, University of Michigan Medical School, Ann Arbor, addressed the Muskegon County Medical Society, April 13, on sterilization and birth control.——Dr. Charles B. Stockwell was presented with a "well filled purse" at a recent meeting of the St. Clair County Medical Society, Port Huron, previous to his departure to make his home with his daughter at Montour Falls, N. Y. Dr. Stockwell had practiced in this community many years.——Drs. Henry L. Burdeno has been appointed health officer of Dearborn, and Warren E. Danley, health officer of Union City.

Services Donated in "Summer Round-Up."—The National Parent-Teacher Association is conducting throughout the country a health examination program of those preschool children who will enter school next fall. In this "summer round-up," members of local associations call on mothers in their neighborhoods advising them to have their children examined, and to follow the physician's advice concerning the correction of defects found. Physicians of Detroit and Highland Park, through their local societies, agreed to conduct these examinations without charge during the week, May 7-14. The Detroit Department of Health, in announcing this work, states that such examinations should ordinarily be paid for, but the medical profession generously donated its time and skill that the community might become better acquainted with the program of the National Parent-Teacher Association. The health department also says that if all parents avail themselves of this opportunity, the community will be more greatly benefited than by any other health movement of the present age.

MISSOURI

Dr. Dean Appointed Full-Time Professor.—Dr. Lee Wallace Dean, formerly dean and professor of otolaryngology and oral surgery of the State University of Iowa College of Medicine, Iowa City, has been appointed full-time professor of otolaryngology at Washington University Medical School, St. Louis, where he will assume his duties at once.

Personal.—Edmund V. Cowdry, Ph.D., of the Rockefeller Institute for Medical Research, New York, has been appointed professor of cytology in Washington University Medical School, St. Louis.——Dr. David P. Dyer, Sedalia, has been appointed director of the Free Emergency Hospital at the Missouri State Fair, August 18-25; this will be the seventeenth year that Dr. Dyer has been in charge of the state fair's hospital.

Awards in Pistol Shoot.—At the second annual banquet of the medical section of the Kansas City chapter of the Reserve Officers' Association, May 3, the guest of honor was Col. George A. Skinner, U. S. Army, corps area surgeon, and the toastmaster, Major Evan S. Connell, president of the section. The following reserve officers were awarded sabers for their scores in a recent pistol shoot: Majors James E. Stowers and Rush E. Castelaw; Capts. James Graham and F. W. Miller, and Lieuts. Glenn Jones, R. Martin and Alvin Sach-Rowitz. Major Connell was awarded a gold medal.

St. Louis Cancer Clinics.—Health Commissioner Starkloff of St. Louis announces that plans are being made to equip the ten health centers in St. Louis for diagnostic cancer clinics. They will be under the direction of the board of visiting nurses, and physicians now in the diagnostic division of the health department will assist. The clinics will be for diagnostic purposes only and will become a permanent part of the health center work. During cancer week, Dr. Joseph C. Bloodgood and Dr. Thomas S. Cullen, both of Johns Hopkins University School of Medicine, Baltimore, spoke in the auditorium of the St. Louis Medical Society on cancer.

Society News.—Dr. Frank G. Nifong, president of the Missouri State Medical Association, addressed the Buchanan County Medical Society, St. Joseph, April 4, on "The Practice of Medicine Thirty-Five Years Ago."——Dr. Downey L. Harris, St. Louis, lectured on "Rabies" at the Johns Hopkins University School of Hygiene and Public Health, Baltimore, February 21.——Dr. Alfred P. Briggs addressed the St. Louis

Medical Society, May 8, on "Types of Uremia"; Dr. Ralph A. Kinsella, "Pathogenesis of Experimental Rheumatism," and Dr. Goronwy O. Broun, "Blood Diazo Reaction in Nephritis."——Dr. Benjamin Landis Elliott, Kansas City, addressed the Nodaway County Medical Society, Hopkins, May 11, on "Diagnosis of Mental Diseases by the General Practitioner," and Dr. Frank R. Teachenor, Kansas City, on "Some Organic Conditions of the Brain and Spinal Cord."——The Kansas City Southwest Clinical Society has adopted a resolution to the effect that it will abide strictly by the rules of the American Medical Association with reference to exhibits.——The program on cancer before the St. Louis County Medical Society, May 22, was presented by the staff of the Barnard Free Skin and Cancer Hospital. The speakers were Drs. Martin F. Engman, George Gellhorn, William E. Leighton and Edwin C. Ernst.

MONTANA

Personal.—Dr. George M. Jennings, Missoula, was elected president of the state board of health at the April 5 meeting. Dr. Jesse H. Crouch has been appointed epidemiologist for the state board of health; Dr. Crouch was formerly epidemiologist for Fort Worth, Texas, and has been a health officer in Virginia.——Dr. Frederick B. Exner, who recently completed his internship at the Minneapolis General Hospital, has been appointed assistant surgeon of the North Pacific Hospital, Missoula.

Resolution About Corrective Clinics.—The Montana Academy of Oto-Ophthalmology at its midwinter meeting in Helena adopted a resolution which opposed the indiscriminate holding of corrective clinics unless organized by the ethical physicians of the community, and advocated that the operator charge the regular fee unless advised by the local physicians that the case is worthy of charity. In such cases there shall be no fee, and in all pay cases the patient shall be informed that the fee covers the anesthetic, other assistance and postoperative care rendered by the local physicians.

NEW HAMPSHIRE

State Medical Election.—At the annual meeting of the New Hampshire Medical Society, Manchester, May 15-16, Dr. Joseph J. Cobb, Berlin, was elected president; Dr. Henry O. Smith, Hudson, vice president, and Dr. Dennis E. Sullivan, Concord, reelected secretary-treasurer. The next annual session will be at Manchester, May, 1929.

NEW YORK

Outbreak of Trichinosis.—Forty-three people in the vicinity of Albany contracted trichinosis in April, and at least one died. The cases were confined to the Spanish or Italian sections of the city and developed from eating undercooked sausage made from the meat of a pig bought from a farmer in Mechanicville. All the patients gave a history of having eaten of this meat, from which *Trichina spiralis* was recovered.

Health at Albany.—Telegraphic reports to the U. S. Department of Commerce from sixty-six cities with a total population of about 30 million, for the week ending May 5, indicate that the highest mortality rate (23.5) was for Albany, and that the mortality rate for the group of cities as a whole was 15.5. The mortality rate for Albany for the corresponding week last year was 18.8, and for the group of cities, 13.1.

New York City

Personal.—Sir Arthur Newsholme, formerly principal medical officer of England and Wales, visited New York, May 9-10, as the guest of the department of health to make a study of the department's reorganization plan.——Dr. Haven Emerson recently gave a series of lectures at the School of Tropical Medicine of the University of Porto Rico, San Juan.

Dr. Niles Retires as Dean.—After about ten years' service as dean of Cornell University Medical College, Dr. Walter L. Niles has resigned to become a member of the Joint Administrative Board of Cornell's new medical center which will be erected in conjunction with New York Hospital. Dr. G. Canby Robinson, dean of Vanderbilt University School of Medicine, Nashville, Tenn., will become dean and director of the medical center (THE JOURNAL, Nov. 5, 1927, p. 1614). At the annual dinner of the college alumni association, May 10, Dr. Niles was presented with a bronze plaque.

Society News.—Dr. Abraham Charles Posner addressed the Harlem Medical Association, May 2, on "Splenectomy for Purpura Hemorrhagica."——H. H. Balkam, illuminating engineer, addressed the Medical Society of the County of Kings, May 15, on "Modern Lighting: Its Application to Industry and Practical Medicine"; Dr. Iago Galdston of the New York Tuberculosis and Health Association, "Pitfalls; Old Facts in a New Dress," and Dr. Richard Kovacs, "Physical Therapy in General and Hospital Practice."——Dr. Abraham J. Fleischer has been appointed associate attendant in obstetrics to the Jewish Memorial Hospital.——The Medical Association of the Greater City of New York was addressed, May 21, by Dr. Le Grand Kerr on "Preventive Pediatrics Plus Practical Psychology," and by Dr. Charles H. Smith on "Differential Diagnosis of Pneumonia in Children."——Among others, Dr. David Orgel presented a case report of acute intestinal obstruction with a barium meal before the New York Physicians' Association, May 23.

Academy Acquires Rare Books.—The New York Academy of Medicine has acquired a valuable collection of medical books which were assembled over a period of twenty years by Dr. Edward C. Streeter, Boston; $185,000 was paid to Abraham S. Wolf Rosenbach, Ph.D., who purchased the collection recently. The Streeter collection contains eighty-three incunabula published before 1501; an illuminated manuscript of the work of Guy de Chauliac made in the thirteenth century, and a number of books published in the sixteenth century, including a collection of Ambroise Paré's works. The collection, which contains about 1,700 volumes, will be on exhibition at the academy in the autumn. The Rockefeller Foundation donated $85,000 toward the purchase; Mr. Edward S. Harkness, $25,000; Mr. Carl Tucker and Mrs. Walter S. Ladd, each $10,000; Mr. Harry P. Whitney, Mr. Felix Warburg, Mr. V. E. Macy and an anonymous friend, each $5,000, and other friends of the academy, smaller sums. The fellows themselves contributed more than $10,000. The employees of the library and the first district dental society made contributions. Two donors agreed to underwrite the remaining amount.

NORTH CAROLINA

Hospital News.—Edward M. Harris, Philadelphia, a native of North Carolina, will erect a 100 bed modern hospital in Raleigh in memory of his father who, for years, was editor of the Orange County *Observer*, published at Hillsboro. It will be a general hospital, supported by endowment, not for profit, and admitting charity and pay patients. It will be directed by a board of trustees and will cost more than $300,000.

State Medical Election.—Dr. Thurman Kitchin, dean and professor of physiology and pharmacology, Wake Forest College School of Medicine, was elected president of the Medical Society of the State of North Carolina at the annual meeting, Pinehurst, April 30-May 2; Drs. William L. Dunn, Asheville, David T. Tayloe, Washington, and William D. James, Hamlet, vice presidents, and Dr. Lewis B. McBrayer, Southern Pines, secretary, reelected.

OHIO

Toledo Appoints Health Officer.—Dr. Paul F. Orr, Lansing, Mich., has been appointed full-time health officer of the city of Toledo at a salary of $5,000 a year. Dr. Orr formerly was connected with the Toledo Department of Health and since 1925 has been connected with the Michigan State Department of Health.

Health at Cincinnati.—Telegraphic reports to the U. S. Department of Commerce from sixty-six cities with a total population of about 30 million, for the week ending May 12, indicate that the highest mortality rate (22.5) was for Cincinnati, and that the mortality rate for the group of cities as a whole was 15.4. The mortality rate for Cincinnati for the corresponding week last year was 17.7, and for the group of cities, 12.9.

Health Talks at Chautauquas.—Ohio's part in the national endeavor of the Milbank Memorial Fund and the National Community Foundation to spread the "gospel of health" will comprise talks in eighty cities and towns in fifty counties through the medium of the Redpath Chautauqua with headquarters in Columbus. Two laymen have been assigned to the Ohio circuit, Mr. Frederick M. Snyder, New York, and Mr. Wallace B. Amsbary, Chicago. A feature of the campaign, according to the *Ohio Health News*, will be a junior chautauqua minstrel which will dramatize for the children the principles of health. Mr. Amsbary was on the stage from 1886 to 1897, and since the latter year has been in Lyceum work.

Cincinnati Alumni Postgraduate Week.—A week of bedside clinics and demonstrations, symposiums, demonstrations in laboratories, and amphitheater clinics has been arranged for the

alumni of the University of Cincinnati College of Medicine, June 11-15, culminating, Friday evening, in the annual banquet at the Hotel Gibson. There will be no orator. A "Bohemian evening" has been arranged. Last year 312 attended this dinner. The graduating class will be installed in the alumni association. Ladies are invited. Reservations should be made with the executive secretary of the medical school, Mount Auburn, Cincinnati. There will be no registration fee for the clinics, but the $2 annual dues to the alumni association are now payable.

Exploitation of Unusual Hospital Cases.—The Toledo Academy of Medicine in April mailed to every hospital in Toledo a letter requesting cooperation in preventing recurrences of recitals of surgical and medical cases of an unusual character in the press in connection with the attending physician's name. The academy pointed out that such exploitation violates ethical standards and may lead to embarrassment for the physician through some action of the board of censors. The academy recognizes that medical information is good for the public but it must be the consensus of medical opinion and not the idea of a single practitioner. The officers of the academy recognize that the few cases which have been so exploited in Toledo were not sponsored by the physicians so unfortunately involved.

PENNSYLVANIA

Society News.—The Sixth Councilor District Medical Society held its annual meeting at Altoona, May 16; Drs. Arthur C. Morgan, Philadelphia, president, Thomas G. Simonton, Pittsburgh, president-elect, and Walter F. Donaldson, Pittsburgh, secretary of the state medical society, spoke at the dinner. Dr. Oliver H. P. Pepper, Philadelphia, discussed "Nontuberculous Lung Lesions," and Dr. Edmund B. Piper, Philadelphia, "Management and Complications of Labor and Puerperium." —— Dr. William D. Stroud, Philadelphia, addressed the Cambria County Medical Society, April 12, on "Diagnosis and Treatment of Auricular Fibrillation." A moving picture of the heart's valves was shown. Dr. Paul R. Correll, Easton, spoke on cults. About twenty laymen, representing civic organizations of Johnstown, were present.—— Dr. Ross V. Patterson, dean, Jefferson Medical College, addressed the Delaware County Medical Society in March on "Recognition and Treatment of Cardiac Diseases."—— Dr. Edward A. Strecker, Philadelphia, addressed the Luzerne County Medical Society, March 21, on "Psychoanalysis."—— Dr. Diego B. Martinez, Pittsburgh, discussed "Liver Extract in the Toxemias of Pregnancy" before the Erie County Medical Society in April.——The Schuylkill County Medical Society held a legislative meeting, April 3, at Pottsville; candidates for election to the legislature were present, and at the conclusion of the meeting promised, if elected, to work for the elevation of the practice of the healing arts in Pennsylvania. Seventy-six physicians attended this afternoon meeting in addition to hospital trustees. The speakers were Drs. Paul R. Correll and Arthur C. Morgan, who outlined the aims of organized medicine.——The Warren County Medical Society was addressed, April 16, by Dr. Thomas P. Tredway, Erie, on "Allergic Disease," and by Dr. Harry W. Mitchell, Warren, councilor, on the legislative policy of the state society.——The state department of health has equipped three new motor laboratories which started out about May 1 to study the sanitary conditions of five major streams in the state in line with the policy laid down by the sanitary water board. Motor laboratories will start out, June 1, to examine private water supplies along the highways of the state. This work will be conducted in the seven districts in which the state has been divided.—— Dr. Henry D. Chapin, New York, addressed the Pittsburgh Pediatric Society, May 26, on "The Speedwell Plan of Child Saving in Theory and Practice."——Dr. Howard G. Schleiter addressed the Pittsburgh Academy of Medicine, May 22, on "Use of Potassium Sulphocyanate in the Treatment of Hypertension"; Dr. Zaccheus R. Scott, "Diet as a Factor in the Etiology and Prognosis of Summer Diarrhea," and Dr. Harold G. Kuehner, "Fat Embolism Following Fractures."

Philadelphia

Picnic at "Paradise."—The president of the Philadelphia County Medical Society, Dr. Isidor P. Strittmatter, invites all members of the society and of the women's auxiliary to a picnic and supper at "Paradise," his country home on the Delaware River opposite old Fort Mifflin, Tuesday afternoon, May 29, "Aid Association Day." Contributions in honor of the women's auxiliary are suggested and should be sent to Mrs. R. Powers Wilkinson, treasurer, 1613 South Broad Street.

Society News.—Dr. Albert E. Bothe addressed the Philadelphia Academy of Surgery, May 14, on "Primary Extrarenal Hypernephroma," and Drs. George M. Dorrance and James K. McShane, "Cancer of the Floor of the Mouth and Tongue." ——A case report on "Familial Tremor" was presented to the Philadelphia Neurological Society, May 25, by Drs. Charles S. Potts and Winifred B. Stewart.——"Local Immunization in Staphylococcus Infections" was the subject of a paper by Drs. Henry B. Decker, Camden, N. J., and Henry K. Seelaus at a meeting of the eastern chapter of the Society of American Bacteriologists at Jefferson Medical College, May 22.——Drs. William J. Gardner and Francis C. Grant addressed the Physiological Society of Philadelphia, May 21, on "Effect of Hypertonic Solutions on Cerebrospinal Fluid Pressure."

Personal.—At the eighty-second annual banquet of the Northern Medical Association of Philadelphia, May 14, the guests of honor were Charles E. Beury, LL.D., and Drs. Barton C. Hirst, Andrew A. Cairns and Arthur C. Morgan. ——Dr. David Riesman, professor of clinical medicine, University of Pennsylvania School of Medicine, has recently been made a Knight of the Order of the Crown of Italy. ——A testimonial dinner was given to Dr. George A. Knowles at the Union League Club, May 12, in appreciation of his work on medical legislation.——Dr. Edward A. Strecker gave the graduation address at the nurses' training school of Jefferson Hospital, May 17.—— Dr. John Norman Henry has been elected president of the University Club of Philadelphia.—— Dr. John H. Remig has been appointed editor of the *Weekly Roster and Medical Digest* to succeed Dr. Christian B. Longenecker, resigned.

TEXAS

Upper Classmen Suspended.—It is reported that the University of Texas School of Medicine, Galveston, suspended five male students of the junior and senior classes of the medical school and five student nurses of the school of nursing, recently, as the aftermath of a party at the home of one of the medical students. Two junior students were suspended for a year; the three seniors will not be given degrees until next year.

State Medical Election.—At the annual meeting of the State Medical Association of Texas, Galveston, May 8-10, Dr. Joseph E. Dildy, Brownwood, was made president-elect; Drs. D. H. Hudgins, Forney, Stephen D. Naylor, Stephenville, and Job L. Hammond, Paris, vice presidents; Dr. Khleber H. Beall, Fort Worth, treasurer; Dr. Holman Taylor, Fort Worth, secretary, reelected. The next meeting will be held at Brownsville. Delegates elected to the American Medical Association include Drs. John W. Burns, Cuero, Witten B. Russ, San Antonio, and Joseph Gilbert, Austin. The house of delegates approved the plan to amend the medical practice act of the state so as to provide for the annual registration of physicians. The house also voted to ask Congress either to abolish the right of physicians to prescribe alcohol or to remove the restrictions. The attendance at this meeting was 1,005 registered, and 400 members of the women's auxiliary.

VIRGINIA

Accidental Suffocation of Infants.—Thirty-nine babies met death in Virginia in 1926 by mechanical suffocation as a result of having been taken to bed with their mothers. Of all causes of accidental deaths of infants, this one was first, its nearest rival being burns. During the five years, 1922-1926, 164 infants were thus suffocated, and seventy-four died as the result of burns.

Personal.—Dr. William A. Brumfield, health officer at the Virginia Polytechnic Institute, Blacksburg, has tendered his resignation, effective at the end of the present school year, to become health officer of several counties in the lower Piedmont region with headquarters at Farmville.—— Dr. Goldsborough F. McGinnes has been appointed director of laboratories of the state department of health to succeed Mr. Aubrey H. Straus, who has tendered his resignation, effective June 15. Mr. Straus has been connected with the laboratory for about nine years. Dr. McGinnes was formerly health officer of Isle of Wight County, and for some time has been taking graduate work at Johns Hopkins University.——Dr. Russell L. Cecil, New York, will deliver the commencement address at the Medical College of Virginia, Richmond, May 29, when he will receive the honorary degree of doctor of science. Dr. Cecil is an alumnus of the college.

Governor Signs Medical Practice Act.—Governor Byrd, March 29, signed the so-called new medical practice act, which, the *Virginia Medical Monthly* says, will safeguard the

people from quacks and place the care of their health in the hands of those who shall have attained the standards of training essential to the combating of disease. Some features of the new law are that (1) it prohibits licenses to practice to persons who have been guilty of unprofessional or immoral conduct, and authorizes the board of medical examiners to suspend or revoke certificates for these causes; (2) unprofessional conduct is defined, in part, as habitual drunkenness or addiction to the use of narcotics; the performance of a criminal abortion; the prescribing of narcotics or alcoholics for other than medicinal purposes; the advertising of medical business in which extravagant claims are made; fee splitting, and other things. The foregoing journal gives credit to the committee on public policy and public health, as well as to a special committee appointed by the state medical society to frame the law and to help it through the legislature. The chairmen of these committees are, respectively, Drs. Lawrence T. Price, Richmond, and John W. Preston, Roanoke, president of the state society.

GENERAL

Comparative Psychology Monographs.—This publication has been taken over by the Johns Hopkins Press and will be issued hereafter under the managing editorship of Knight Dunlap. An editorial board of six members has a subdivision of the field assigned to each; manuscripts offered will be referred to the appropriate editor immediately, and will be considered for publication only after being approved by him.

The Number of Automobiles.—The bureau of public roads, Washington, D. C., announced, April 11, that there were 23,127,315 motor vehicles registered in the United States in 1927, or one for every 5.13 persons. The increase in registration over 1926 amounted to 5 per cent, or 1,125,922 vehicles. The total receipts from license and registration fees were $301,061,132. The states which had more than a million vehicles were New York, California, Ohio, Pennsylvania, Illinois, Michigan and Texas.

American Association for the Study of the Feebleminded.—This organization will hold its annual meeting at Haddon Hall, Atlantic City, May 31-June 2, under the presidency of Edward R. Johnstone, Vineland, N. J. The program is designed to emphasize the practical aspects of the problems of the feebleminded. Speakers of national repute will present papers on the sociological, pathologic, psychologic and administrative and delinquency aspects of institutions for the care of mental defectives. Physicians, social workers, psychologists, nurses and others interested are cordially invited.

Physicians' Reports of Treatment of Longshoremen.—When a physician treats an employee coming within the "Longshoremen's and Harbor Workers' Compensation Law," recently passed by Congress, he must furnish to the employer and to the district commissioner of the compensation district in which the injury occurred a report of the case on Form U. S.-204 which is prescribed by the U. S. Employees Compensation Commission, copies of which may be secured from the district commissioner having jurisdiction in the case. This is of particular interest to physicians residing in the coastal cities and towns whose work includes the treatment of employees covered by this law. The report must be made within twenty days after the first treatment.

Hearst Wins Suit Brought by Sherman.—The libel suit brought by Dr. George H. Sherman of Detroit against William Randolph Hearst was decided in favor of Mr. Hearst in a sealed verdict opened May 17. Dr. Sherman sued for $1,300,000, basing his claim on an article by Paul A. DeKruif, Ph.D., which appeared in *Hearst's International Magazine* of December, 1922, and the title of which was "Vaccine for Broken Legs." The article was accompanied by illustrations of advertisements of vaccines made by Dr. Sherman and the article itself alleged that these were unscientific. The defense maintained the truth of the assertions made in the article. One of the exhibits said to have been presented by the defense was Sherman's "Therapeutic Index" which contained a list of vaccines allegedly able to cure 142 diseases. Thirty-five physicians testified during the trial either in person or by deposition.

Fund and Foundation Inaugurate Chautauqua Health Program.—The Milbank Memorial Fund, New York, and the National Community Foundation have inaugurated a plan to carry the message of public health to rural districts by means of the chautauqua platform. Arrangements were perfected at a conference in New York, May 2, attended by executive health officers of nine states and representatives of the Milbank Fund, the National Community Foundation, the American Public Health Association, the American Child Health Association, the American Red Cross, the National Tuberculosis Association and the Redpath and Swarthmore Chautauqua systems. At the request of the Milbank Fund, the American Public Health Association appointed a committee (Dr. Samuel J. Crumbine, American Child Health Association, chairman) which will assemble data for the use of the chautauqua lecturers. The committee will furnish detailed information concerning health conditions in towns which the speakers visit, so that facts which they emphasize may be applied directly to the problems of the individual communities. The National Community Foundation was launched last year by the Rev. S. Parkes Cadman, Otto H. Kahn, and Mrs. Medill McCormick to carry educational benefits to the country's "home towns."

Rockefeller Foundation Aids Medical Schools.—The president of the Rockefeller Foundation, in his report for 1927, says that the foundation responds to invitations from certain types of medical schools which want aid in carrying out plans for improving their buildings, equipment, organization, teaching and research. During 1927, the foundation assisted the following medical schools:

DOMESTIC

State University of Iowa

FOREIGN

University of Montreal
National School of Medicine and Pharmacy, Haiti
Faculty of Medicine, São Paulo, Brazil
University College, London
London Hospital Medical School
University of Cambridge
University of Edinburgh
University of Lyon
Free University of Brussels
University of Strasbourg
Twenty departments in twelve French and Italian medical schools
Institute of Psychiatric Research, Munich
University of Zagreb
American University in Beirut
Chulalongkorn University, Bangkok
Shantung Christian University, Tsinan
Shanghai Union Medical School
Hsiangya Medical College, Changsha
Keio University, Tokyo

Pollution of Air by Automobiles.—A survey has been made by the U. S. Public Health Service to determine whether a carbon monoxide hazard exists in the streets of large cities, in auto busses and repair shops. Two hundred and fifty samples of air were obtained for analysis from fourteen large cities. The street samples were taken in a manner to approach the most congested traffic conditions that may exist. The results therefore indicate the maximum hazard. The average of 141 tests made of air in city streets at peak hours of traffic show 0.8 part of carbon monoxide in ten thousand parts of air. Of all the street samples, only 24 per cent have had more than one part carbon monoxide in ten thousand parts of air. Samples taken inside of auto busses yield even lower concentrations of carbon monoxide gas. This study did not, therefore, reveal the existence of a health hazard from this source in our streets. The only person who may possibly be exposed to a health hazard in this way is the traffic officer. On the other hand, of 102 tests made in twenty-seven garages in fourteen cities, the average carbon monoxide content was 2.1 parts in ten thousand, and 18 per cent of all these samples contained more than four parts in ten thousand parts of air. This, therefore, shows a dangerous situation in repair shops. These samples were all taken in garages of considerable size. Unquestionably, the report states, the great danger to life is in the small private garage containing one or two cars. This hazard may be reduced to a minimum by not allowing automobile motors to run longer than thirty seconds in repair shops unless the car is in necessary motion or its exhaust is connected to the outside air by an air-tight outlet.

Society News.—The National Tuberculosis Association has discontinued its service of demonstrating the need of sanatoriums, aiding in the selection of sites for them and in cooperating with architects in developing plans for such institutions. The association, having carried on this work for ten years, feels that the affiliated associations with the aid of the state and local health departments are now able to demonstrate the need of a sanatorium and to select a site.——At the annual meeting of the American Bronchoscopic Society, Washington, D. C., April 30, Dr. Charles J. Imperatori, New York, was elected president and Dr. Louis H. Clerf, Philadelphia, reelected secretary.——Dr. John Gordon Wilson, Chicago, was elected president of the American Otological Society at the annual meeting, April 30-May 1, Washington, D. C., and Dr. Thomas J. Harris, New York, was reelected secretary.——Dr. Walter R. Parker, Detroit, was elected president, and Dr. Emory Hill, Richmond, Va., secretary of the American Ophthalmological

Society at the annual meeting, April 30-May 2, Washington, D. C. The next annual session will be at Hot Springs, Va., June 10-12, 1929.——At the annual meeting of the American Gynecological Society, April 30-May 2, Dr. C. Jeff Miller, New Orleans, was elected president and Dr. Floyd E. Keene, Philadelphia, reelected secretary.——Dr. Campbell P. Howard, Montreal, Que., Canada, and Dr. James H. Means, Boston, were elected president and secretary, respectively, of the Association of American Physicians at the annual meeting, Washington, D. C., May 1-3.——Alumni of Northwestern University Medical School will meet at dinner during the annual session of the American Medical Association in Minneapolis, Wednesday, June 13, at 6:30 p. m., at the Minneapolis Athletic Club. Reservations should be sent to Dr. Frank S. McKinney, 532 La Salle Building, Minneapolis.

Medical Bills in Congress.—H. R. 1, the tax reduction bill, was amended by the Senate to permit physicians to deduct expenses incurred in attending medical conventions in computing their income tax. The vote was 59 to 13. The proposed increased narcotic tax has been eliminated from the bill.——H. R. 13752 provides for the construction of a children's tuberculosis sanatorium in the District of Columbia.——H. R. 13782 provides for compensation for disability or death resulting from injury to employees in certain employments in interstate or foreign air commerce.——H. R. 13854 provides facilities and equipment in the Capitol for the emergency treatment of ill and injured persons.——H. R. 13855 provides, in part, for the annual registration of nurses in the District of Columbia.——S. 2366, regulating the conferring of degrees in the District of Columbia, has been reported by the House Committee on the District of Columbia with an amendment and with the recommendation that it pass.——S. 3554, authorizing the U. S. Public Health Service and the National Academy of Sciences to investigate the means and methods whereby the federal government may aid in discovering a cure for cancer, has been passed by the Senate. The bill carries an appropriation of $50,000.——S. 3936, a bill to regulate the practice of the healing art in the District of Columbia, has been amended in the Senate so as to permit chiropractors to secure licenses, under certain conditions, without examination. The amendment was introduced by Senator Bruce of Maryland.——S. 3127, liberalizing existing law relating to the mailability of poisonous drugs and medicines, has been passed by the Senate.——S. 4463 provides for the construction of a children's tuberculosis sanatorium in the District of Columbia. This bill is the companion bill to H. R. 13752.——H. R. 13784 provides for the rank, pay and allowances of a colonel, medical corps, U. S. Army, to the medical officer assigned to duty as personal physician to the President. ——House Joint Resolution calls on the President to issue a proclamation every year designating the first week in May as national health week.

President Vetoes Public Health Service Bill.—In a message to the House of Representatives, May 19, President Coolidge vetoed the so-called Parker Bill (H. R. 11026) which was intended to provide for reorganization and coordination of the public health activities of the government. Among other things, the bill provided for additional divisions in the hygienic laboratory, gave commissioned officers of the public health service the same status with respect to promotion and longevity as officers in the corresponding grades of the army medical corps, and provided for the establishment of a nurses corps in the public health service. An amendment to the bill by the Senate Committee provided that the term of service of the surgeon general should be limited to eight years. The President vetoed the bill because:

> It creates offices to be filled by appointment by the President, and at the same time not only limits the choice of appointees . . . to persons who possess the qualifications of passing an examination conducted by a board of officers convened by the Surgeon General of the Public Health Service, but also limits the choice among individuals possessing such qualifications to persons who are recommended by such board and by the Surgeon General; thereby attempting to vest in such board and in the Surgeon General participation in the executive function of appointment of officers of the United States, which function can be vested in and exercised only by the President with the advice and consent of the Senate, the President alone, the courts of law and heads of departments.

The President asserts that this provision contravenes Section 2, Article 2, of the Constitution of the United States. This objection made by the President to the bill is based on a memorandum furnished by the attorney general. The President also objects to that feature of the bill which places public health officials on a status similar to that of army and navy medical officers. On this feature of the bill the President said:

> For some time past there has been a definite movement among various groups of government professional and scientific employees toward militarization of their respective services, and I am impelled to oppose this movement from the standpoints of both economical administration and public policy. From an economic standpoint, the method of appointment of the civilian personnel should be such that the force of government employees can be increased or decreased as the needs of the service or condition of the Treasury make necessary.
>
> But more important still, I do not believe that permanency of appointment of those engaged in the professional and scientific activities of the government is necessary for progress or accomplishment in those activities, or in keeping with public policy.

The President concludes his message with the statement that the other provisions of the bill have his entire approval, and if the unconstitutional and the militarization features are removed, he will be pleased to approve it.

CANADA

Vancouver Summer Clinics.—The Vancouver Medical Association has arranged for its members a series of clinics and demonstrations, June 5-8, at the Hotel Georgia, Vancouver, for which a $10 fee will be charged. The clinicians will be Drs. Joseph C. Bloodgood, professor of clinical surgery, Johns Hopkins University School of Medicine, Baltimore; Dr. John Phillips, professor of medicine, Western Reserve University, Cleveland, and Drs. Frederick H. MacKay, Francis A. C. Scrimger and Charles A. Peters, all members of McGill University Faculty of Medicine, Montreal. This will be the eighth annual summer school of the Vancouver Medical Association.

Ontario Medical Association Meeting.—The forty-eighth annual meeting of the Ontario Medical Association will be held in Kingston, May 29-June 1, with headquarters at the Ontario Hall, City Buildings. There will be no section meetings, all papers being presented in general sessions. Among the guests from the United States will be Dr. Thomas S. Cullen, Baltimore, and his subject "Uterine Hemorrhage: Its Cause and Treatment"; Dr. Bethuel Vincent Lyon, Philadelphia, "Uses of the Duodenal Tube in Diagnosis and Treatment," and Dr. James G. Dwyer, New York. Dr. Ronald G. Canti, London, England, will speak Friday on "Growth of Tumor Cells in Vitro and Effects of Radium Thereon." The afternoons will be free for entertainment and a delightful program of teas, dinners, dances and drives has been arranged.

Professor MacLeod Will Return to Scotland.—Dr. John James Rickard MacLeod, professor of physiology, University of Toronto, and associate dean of the medical faculty, has accepted the regius professorship of physiology at the University of Aberdeen, and will return to Scotland in the autumn. Dr. MacLeod was born in Scotland, and was a student and teacher in Europe until 1903, when he was appointed professor of physiology, Western Reserve University School of Medicine, Cleveland, which position he held until 1918, when he went to McGill University, Montreal. Dr. MacLeod has been a distinguished member of the profession for many years; his most notable work perhaps was in connection with the discovery of insulin, for which he shared with Banting the Nobel Prize in physiology and medicine in 1923. He has received other awards, and has to his credit a long list of publications including books, monographs and original papers.

FOREIGN

Yellow Fever in Africa.—The attention that is being given to yellow fever on the west coast of Africa is evidenced in a history of yellow fever in the February Epidemiological Report of the Health Section of the League of Nations. There were in Senegal, in 1927, 116 cases and 109 deaths and, in 1926, twenty-seven cases and twenty-three deaths. On the Gold Coast in 1927, there were reported 107 cases and forty-one deaths. Other places where the disease prevailed in 1927 were Nigeria, French Sudan, French Togo, Niger Territory, Dahomey and Ivory Coast. Following a brief review of recent investigations is this conclusion: "It will thus be seen that there is still considerable doubt as to the nature of the yellow fever virus. As to the manner in which the disease is spread, knowledge is relatively complete. The accuracy of all the main conclusions arrived at by Reed, Carroll, Agramonte and Lazear remains unchallenged." The only cases of yellow fever reported in the western hemisphere in the last two years have been from North Brazil where, in the spring of 1926, forty-one cases were diagnosed at Parahyba and about fifty cases at Natal in the state of Rio Grande do Norte.

Deaths in Other Countries

Sir William S. Church, late president of the Royal College of Physicians of London, April 27, aged 90, at his home in Hatfield, England.——**Dr. J. A. MacDonald**, a leader in the British Medical Association for many years, chairman of the council for ten years, chairman of the British Medical Association Journal Committee since 1920, and a member of the General Medical Council since 1911.

Foreign Letters

LONDON

(From Our Regular Correspondent)

May 5, 1928.

Reduction of Offenses for Which the Death Penalty Is Inflicted in the Army

The government has decided, no doubt as a result of the experience of the Great War, to abolish the death penalty on active service for the following offenses: (1) leaving a commanding officer to go in search of plunder; (2) forcing a safeguard; (3) forcing or striking a sentinel; (4) breaking into a house or other place in search of plunder; (5) when acting as sentinel, sleeping or being drunk on a post; (6) striking or using or offering violence to a superior officer in the execution of his office; (7) disobeying in such a manner as to show wilful defiance of authority of any lawful command given personally by a superior officer in the execution of his office; (8) altering or interfering with any air signal without authority. The only military offenses on active service which remain punishable with death will be mutiny, treachery, cowardice, desertion and leaving a guard without orders, or, in the case of a sentinel, leaving a post without being regularly relieved.

When the bill came before the house of commons, an attempt was made by the labor members and others to extend the exemptions from the death penalty. The labor party thought the penalty for cowardice and desertion should be abolished. One member argued that cowardice was now recognized as a physical defect and that many men were brave at one time and cowards at another. Another member did not think that men on active service could be kept up to the mark by the thought that they might be shot. The only case in which the death penalty would be justifiable as effecting its supposed object was that of a broken force, when armed men were breaking away or in flight. It was all very well to have the death penalty when the army was a professional one and the men enlisted on terms which they all knew, but if unfortunately we were involved in another war our army would not be a professional one but the manhood of the nation. What right had they to take a man from the shop or the office and, if his nerve failed him under the strain of war, to shoot him? Lord H. Cecil, a member of the committee which inquired into this question, was convinced that no one had been shot during the war simply for loss of nerve and that though a considerable number of death sentences had been pronounced, only a small number were carried out in those cases in which wilful and deliberate cowardice had been shown. Sir J. Simon said that the practical question was whether experience had shown that the effect of the death penalty in the case of cowardice was that men who would otherwise be so overwhelmed by the terrors in front of them that they would desist from their duty would, because of the death penalty, persist. That would be a strong argument, but not a single member had suggested in the course of the debate that the death penalty had any effect in getting men to do their duty. He thought that the case for moving cowardice into a lower category had been made out. Whatever might be said of the horrors of war it was a fine thing that, by the common experience and consent of the British people, the thing that kept the British soldier to his duty was not the fear of being shot by his own comrades.

Mr. Duff Cooper, financial secretary to the war office, replying for the government, said that the alterations had been made not as a concession to popular opinion but because the army council held that the clauses which had been removed were not of service in maintaining discipline and led to misunderstanding as to the object of the death penalty. As to the demand for its abolition for cowardice, what would be the state of mind of men in a battalion when they saw a man whom they knew to be a shirker and a coward going happily to the rear to be tried and sentenced to imprisonment and leaving them to face greater dangers? In forces where the death penalty had not been exacted for crimes of that kind it had been found that the men took the law into their own hands. No one would advocate that solution. It was necessary to retain the death penalty because so long as there was an army it must be disciplined. The amendments were negatived by a majority of about 2 to 1 and the bill as altered by the government was passed.

"The Fundamentals of Health"

It is only in recent years that it has become the fashion for physicians to lecture the public on health. As previous letters have shown, there is even a society for this purpose, the "New Health Society." If health could be secured by propaganda there should now be little disease, but the facts are otherwise. The British Medical Association has joined in the movement by means of occasional public lectures. Sir George Newman, chief medical officer of the ministry of health, has delivered for the association a lecture on the fundamentals of health. He said that the nurture of the body depended on the six elements of food, fresh air and sunlight, exercise, warmth, cleanliness and rest. Though this knowledge was as old as history, it was still only partially applied. Merely to devise ideal dietaries was not enough. There must be healthy activity of those physiologic processes which had to do with mastication and preparation, with absorption and assimilation. When they turned to the dietary of the great mass of the workers they found a tale of ham and beef, of beer and bread, of tea and pickles, of canned meat and proprietary foods, or a weary round of bacon, herring and cheese—and of an unstable digestive system and an impaired physique. But variety, appetizing cookery, freshly prepared or natural food were often ignored. This was partly due to medical neglect of rational feeding, which was worth more than all the drugs; partly to the vicious custom of sedentary workers combining excessive consumption of unsuitable food with lack of exercise, which was a primary need; but, speaking generally, most people stood in greater need of rest than of movement. Our American cousins and we ourselves were getting much too restless for good health or even mental balance. There was an excess of noise, clatter, chattering and meaningless activities. In these days of public education in health we must avoid two dangers—stunts and panaceas. How were the essential conditions of nurture to be organized by the community? There must be a sanitary environment: housing, water supply, drainage and refuse removal, sanitary work places and clean streets. There must be systematic nurture beginning before birth—protection of motherhood, infant welfare, child hygiene, care of the adolescent, liberal education, wholesome food supply. There must be preventive organizations for controlling the agencies of infection, segregation, disinfection, quarantine, production of immunity, provision of antitoxins and, lastly, a public and private medical service. Western civilization relied on insurance as the most effective means of placing the people in a position to obtain and use the resources of the science and art of medicine.

The Hygiene of Hop Pickers

The county of Kent, which contains a large part of London, is for a considerable extent devoted to hop growing. Every autumn a large amount of extra labor is required for the gathering of the hops, and this is furnished by an exodus of

workers from the poorer parts of London attracted not only by the wage but also by the opportunity of enjoying the open air life of the country. As might be expected, the sanitary ideas of many hop pickers leave much to be desired even at ordinary times. Here ordinary accommodation is not possible for the large number who form encampments or sleep in barns and outhouses. Under such conditions sanitary methods are often deplorable. At a meeting of the Royal Sanitary Institute Dr. A. Greenwood, county health officer for Kent, discussed the sanitation of hop pickers in relation to rural hygiene. He said that there was ample machinery for insuring satisfactory conditions; the difficulty lay in enforcement. The leniency of some authorities resulted in encampments under conditions which should never have been allowed. The serious typhoid epidemic in Maidstone in 1897 was due to pollution of water from a hop picking encampment. Last summer there were many sources of pollution which, if they had happened to be typhoid infected, might have caused an epidemic. Dr. Greenwood suggested that all huts should be measured and that the number of occupants permitted should be painted on the door. The use of fires in front of huts should be discouraged since it led to large numbers of burns and scalds among children: brick chimneys with fireplaces should be provided. An adequate water supply should be insisted on and the use for drinking water of streams liable to pollution should be prohibited. In all camps, standardized latrines should be provided. Owing to lack of this provision, many camps were in a disgraceful condition and suffering was inflicted on women and children.

Epidemic of Measles in London

London is suffering from a severe epidemic of measles, which is attacking adults as well as children. Since the beginning of the year there have been 895 deaths from the disease and the number of cases has run into thousands. It is curious that measles should be so prevalent at this time of year. In the first four months of last year there were only fifteen deaths from the disease. There are 1,525 patients suffering from the disease in the fever hospitals, but this is only a fraction of those affected as the majority of cases are treated at home. Last week there were eighty-two deaths from measles, the majority due to bronchopneumonia in children.

Rejection of the Bill for the Compulsory Treatment of Venereal Disease

In a previous letter the first attempt in Great Britain to make the treatment of venereal disease compulsory was mentioned. It took the form of a bill introduced into the house of commons by the Edinburgh corporation. In the debate, Dr. Graham Little (dermatologist and member of parliament for the London University) said that voluntary methods for the treatment of venereal disease had been successful and medical opinion was against compulsory method. At the royal commission of 1916 the opinion of experts was overwhelmingly against compulsion. In 1923 the British Medical Association issued a circular to its members and the response was overwhelmingly against compulsory notification of venereal disease, a much less serious infringement on practice than compulsory treatment. The bill would be unworkable without the enthusiastic support of the medical profession. A member for Edinburgh, Sir P. Ford, defended the bill. He said that it was not proposed that voluntary work should cease, but powers were required to deal with recklessly vicious and recalcitrant persons. The bill would not interfere with personal liberty more than the regulations under the public health act by which certain types of disease were notifiable and persons had to submit to treatment and segregation until they were cured. Another medical member, Dr. Salter, said that there were grave objections to compulsion. In the treatment by injection of arsphenamine compounds the patient ran grave risk and deaths resulted every year. He accepted the treatment but many physicians of high standing did not believe that it was any advance on the older method. This bill would drive the disease under ground with risk of its increase. A third medical member, Dr. Shiels, supported the bill. He said that the risks of the modern treatment of syphilis were less than they were some years ago. He was surprised that a bill which meant so much to women and children was opposed by some women's societies. A labor member for Edinburgh, Mr Graham, said that everything possible had been done in Edinburgh under the voluntary system but there were defaulters, reckoned at about 1,000, who gave up treatment and became a grave danger to themselves and to innocent people. The bill would enable them to deal with the defaulters. The house would incur a grave responsibility if it refused investigation of the scheme by a committee. The bill was rejected by 156 to 93 votes.

PARIS

(From Our Regular Correspondent)

April 18 1928.

A New Method of Sterilizing Cultures of Micro-Organisms

Dr. Philibert, agrégé professor and head of microbiologic research at the Faculté de médecine de Paris, with the collaboration of MM. Courtier and Risler, heads of research departments at the Sorbonne, have discovered a method of sterilizing cultures of micro-organisms. A new electric lamp with very slender filaments of aluminum is employed. Under the action of a strong current, the filaments burn with a disruptive discharge and with volatilization of the aluminum. In this short space of time, radiations are produced that are more penetrative than ultraviolet rays and approach the penetration of roentgen rays. These radiations have a highly destructive action on cultures of micro-organisms. The staphylococcus is destroyed in one twenty-fifth of a second, or 150 times more rapidly than with a mercury vapor lamp, which generates ultraviolet radiations of 3,500 candle power. Other micro-organisms besides the staphylococcus have been subjected to the same radiations. All micro-organisms are not as susceptible to their action as the staphylococcus. But their susceptibility can be greatly increased by impregnating them with staining substances and, especially, fluorescent substances. Methyl violet is the substance that appears to fit the requirements best. Bacilli that had resisted the rays were killed immediately, after they had been stained with methyl violet; for example, the diphtheria bacillus. The tubercle bacillus, the most resistant of all, is destroyed when it is impregnated with cyanine.

The Psychotechnical Laboratory of the Paris Surface Lines

Recently published statistics show that traffic accidents caused by the negligence of surface car motormen have been diminished one third during the past two years. This excellent result appears to be due to the mode of selecting employees. The surface lines employ tests similar to those to which prospective aviators and railway engineers are subjected. First, an applicant's ability to judge speed is tested by circulating, at different speeds, one in front of the other, two blocks along a graduated bar. The applicant is expected to determine at what point on the graduated bar the blocks will meet. Another apparatus consists of a revolving wheel, the speed of which the examiner regulates with a controller handle. The applicant at his side controls a similar apparatus in a corresponding manner. The movements of each revolving wheel are recorded on a special chart, and the charts are compared after the experiment, which enables the examiner to estimate the rapidity and the regularity of an applicant's reflexes. In the final test, the candidate stands

in a darkened room in front of an apparatus that reproduces the arrangements in the forepart of a surface car, with control levers, breaks and warning signals. From his position below, the examiner controls the traffic lights and the execution of signals. The applicant executes the maneuvers suggested by the signals he sees and hears. Furthermore, with a chronograph recording differences in hundredths of a second, the reaction time of the applicant in executing a given movement is measured. But the examinee cannot confine his attention absolutely to sounds and colors. In front of him, a cinematographic screen unrolls before his eye many captivating scenes of travel and of sport life. From time to time, a furious honking is heard. The applicant often finds it exceedingly difficult to keep his head and preserve his presence of mind. The last test is especially important. It brings into play all the qualities of the candidate: skill, attention, rapidity of the reflexes, nerve control, and receptivity. It reveals also all his defects. In order to reproduce exactly the conditions under which a car traverses the crowded streets, motion pictures are again employed, which present before the motorman street scenes, in which he sees in front of him speeding vehicles about to cross his path—cyclists, imprudent pedestrians, and vehicles that stop suddenly, blocking the road. At the same time, sounds of sirens, horns and whistles almost deafen him. It becomes his duty to slow up, to apply the brakes, to sound warning signals, without losing his presence of mind, all of his movements being recorded on a chart. More than 10,000 applicants have been examined during the past two years, which fact has enabled the administration to eliminate many applicants whose nervous reactions showed them unfit for the position of motorman. The excellent results already secured prove clearly the value of the tests.

The Installation of Radiotelephones in the Paris Hospitals

A large Paris journal has had ten radiotelephones, with loud speakers, installed in the hospitals of the capital, in order to furnish diversion for the patients. Thus far, only the largest hospitals have been provided for: Hôtel Dieu, Pitié, Charité, Necker, Cochin, Lariboisière, Laënnec, Broussais, Boucicaut, Vaugirard.

Prohibition of the Handling, by the Public, of Articles of Food Exposed for Sale in Shops

Many persons handle bread in shops without any scruples, pressing it to assure themselves that it is well baked. Such handling is henceforth prohibited by order of the prefect of police, and violators of the ordinance are subject to penalty. Not even persons who wear gloves will be permitted to handle bread, for gloves are more likely to be germ-laden than the hands themselves. The prefect of police also has called attention again to the ordinance that requires that meats and other food products displayed in front of shops and exposed to the dust be covered with light gauze material. It still remains to establish regulations with regard to fruit offered for sale on the streets by pedlers, whose hands are usually very dirty. It is difficult to enforce such regulations, and all that has been done is to recommend to the public to wash carefully all fruit bought from pedlers, before any of it is eaten.

Steps to Prevent Quackery in Connection with Venereal Disease

Quackery in connection with venereal disease is widely prevalent in France, as it is elsewhere, its success being due to the credulity of the victims, who are ashamed to consult their family physicians. Special "institutes" and suspicious looking consultation offices of specialists are springing up everywhere, their location being announced by posters or by advertisements in the newspapers. The patients who apply at such places for treatment are commonly shamefully exploited, for it is known that they will never take the case into court. The patients are subjected to numerous blood examinations, repeated injections of various serums, and the treatment is extended over several years, the fear of recurrences being constantly kept before the minds of the victims. For a number of years past, the prefect of police has prohibited the exposure of posters in comfort stations. MM. Gueyrat and Pfeiffer have recently prepared the draft of a law that will be submitted to the chamber of deputies. The text of the proposed legislation has been unanimously approved by the Commission de prophylaxie des maladies vénériennes, of which Professor Pinard, himself a member of the chamber, is the chairman. The proposed bill is patterned, in part, after the act of May 24, 1917, introduced in England for the same purpose, and, in part, after a more recent German law. A penalty of from one month to two years imprisonment and a fine of from 5,000 to 25,000 francs (or only one of these) shall be imposed on any one who shall, by the use of any advertising means, directly or indirectly, propose or indicate a form of treatment, a remedy, or any form of care, designed to prevent, treat, relieve, ameliorate or cure venereal disease. Persons who shall offer for sale, on public roads or in public places, any drugs or instruments designed for the treatment of venereal diseases shall be subject to the same penalties as the aforesaid persons. Exceptions to the provisions of the present law are: (1) notices, announcements or any other indications inserted in the journals or publications, periodic or otherwise, of medicine or pharmacy, unless the said journals or publications shall be sent gratuitously to persons not practicing the profession of doctor of medicine, pharmacist, dentist or midwife; (2) announcements of services or of consultation hours, affixed to the doors of hospitals and dispensaries, under the control of societies recognized as of public utility, or pursuing an altruistic purpose; or displayed at the residence of physicians, and (3) the means of publicity utilized by the public authorities or societies recognized as of public utility. The penalties may be doubled if the tort was committed with respect to minors. As a recidivist within the meaning of this law shall be considered any one who, having been punished through the application of the present law, shall, within five years of the date of the definite imposition of such penalty, commit a second misdemeanor coming under the application of the present law. On recidivists a sentence of imprisonment may be imposed for violations of the law.

RIO DE JANEIRO

(From Our Regular Correspondent)

April 15, 1928.

High Subarachnoid Injection by Atloido-Occipital Route in the Treatment of Tetanus

Prof. Enjolras Vampré of the São Paulo Medical School recently published a report on the treatment of tetanus with antitetanic serum administered by the atloido-occipital route. Professor Vampré injected 3,000 units of antitetanic serum in a patient suffering from a very serious case of tetanus, and noted a drop of temperature and improvement of symptoms.

The atloido-occipital route should be the method of choice in the treatment of tetanus, since it eliminates the necessity of general anesthesia to relieve opisthotonos; it may be applied in most serious cases of tetanus, and it exerts a marked influence on the bulbar centers. In other diseases, such as cerebrospinal meningitis, the atloido-occipital route will prove more useful than the subarachnoid space in the administration of serums.

Hospital Week

With the cooperation of the board of hospital assistance of Brazil, the national health department and the director of municipal public welfare, a "Hospital Week" was held, March 25-31. There were public lectures, with demonstration of films and slides. The following subjects were discussed: "Hospital

Assistance in Rio de Janeiro"; "The Hospital Problem in Brazil"; "Establishment of Pronto Socorro Hospital"; "Illumination in the Modern Hospital," and "Advantages of Hospital Treatment."

Anticancer Campaign

The Arnaldo Vieira de Carvalho Radium Institute for the treatment of cancer is almost completed. The building, built with money obtained through popular subscription, is three stories high, and was built according to the latest hygienic requirements. The institute will acquire 357,781 mg. of radium and will begin to function as soon as the building is completed.

Honors to Prof. Franco Da Rocha

Friends, colleagues, pupils and fellow workers of Prof. Franco da Rocha have decided to render him a significant honor by placing in the lobby of the Juquery Hospital a bronze bust of him made by the laureate sculptor, Pinto do Coute. Professor da Rocha is founder and has been for many years director of the psychopathic service.

BELGIUM

(From Our Regular Correspondent)

March 24, 1928.

Antimeningococcus Vaccination

During a recent sojourn in Katanga (the Belgian Congo), Dr. Bruynoghe noted that meningitis is at least three times more frequent in those not vaccinated against it than in those who have been subjected to antimeningococcus vaccination. The relation may be regarded as 10 to 1 if one compares the nonvaccinated with the receptivity of persons who have received the three injections of vaccine. He analyzed before the Academy of Medicine a series of statistics that revealed the good effects of vaccination. On the other hand, it has been found that the immunity is temporary and that it may gradually become weaker. Vaccinated persons living in a region in which an epidemic prevails are, by reason of the possible loss of immunity, more likely to contract the disease than they are in a region in which the disease is less prevalent. Likewise, the unvaccinated natives brought in contact with the immunized workmen constitute a menace, as they become more easily infected and thus form dissemination centers of the disease. In view of that fact, the governor of the province of Katanga has made antimeningococcus vaccination compulsory for all the natives of the industrial and mining centers. From his observations, Professor Bruynoghe concludes that: 1. Antimeningococcus vaccination has an indisputable prophylactic value, for, in the regions studied, the nonvaccinated presented a higher percentage of morbidity than the vaccinated. Cerebrospinal meningitis was ten times more frequent in the nonvaccinated workmen than in those who submitted to the three preventive inoculations. 2. Vaccination has given the maximum of protection in the centers in which it has been applied to all the natives. It is therefore desirable that the government shall adopt measures to bring about general vaccination in the regions in which the epidemic exists.

The Vomiting of Pregnancy

Before the Société scientifique of Brussels, Dr. Hoet presented recently a communication on the treatment by insulin of the vomiting of pregnancy. The insulin treatment caused the acidosis to disappear and checked the cycle of acidosis and vomiting, which would otherwise have brought on a more intense acidosis.

The Sensitiveness of the Esophagus

Before the Société scientifique of Brussels, Dr. Cuns gave an account of his observations on the sensitiveness of the esophagus. There are, he found, two particular pain centers that become manifest on distention of that organ: the one being epigastric and the other located over the sternum. The pains are not associated with the skin, for they persist if the cutaneous area is anesthetized. The pain provoked in the pain centers is never felt in the back. If patients present pains in the back, it must be admitted that the anatomic limits of the esophagus have been exceeded. The esophagus is sensitive to heat, to cold and to touch but not to the same degree at all levels. The most sensitive places appear to be at its commencement and in the phrenocardiac region. In regard to its sensitiveness to touch, the author is at variance with Hertz, who asserts that the esophagus is not sensitive to touch.

School Medical Inspection in Liége

In Liége, in 1908, three specialists were appointed as school physicians to control diseases of the teeth, eyes, nose, throat and ears. In 1917, new regulations in regard to school medical inspection were set up. The service was much improved and the sanitary record card was introduced, which gives information, from year to year, in regard to a child's personal history, together with suggestions for the elimination or relief of his physical defects. In 1920 the Montéfiore dispensary took up a general review of the pupils of the primary schools. A school nurse was appointed to aid the physicians in their work. Of late, the service has again been reorganized, the communal medical inspectors having first made a careful study of the situation. The recent legislation contains various regulations concerning examination of children, the improvements in the service in the secondary schools, and the extension of the service to the professional day schools, to the academy of fine arts, and to the normal schools. A medical director and several posts for school assistants were created. The new inspection service extends to all the schools that come under the law; namely, to the communal schools and to the liberal schools. There are at present eleven school inspectors and three specialists. Each medical inspector has the supervision of a group of pupils. He examines all the children of his district at least once a year, and oftener if circumstances justify it. Once a month he visits all the classes, at which time he inspects the heating equipment, the ventilation arrangements, the lighting system, and the plumbing and other sanitary installations. He examines also any pupils that the teachers suggest as being in need of special attention.

The Crusade Against Cancer

The Ligue nationale belge contre le cancer held recently its annual general session. The papers presented at the meeting gave accounts of the results of the activities of the league in the anticancer centers. The terrain was prepared by getting in touch with the nurses, the midwives, the mutual aid societies, and educational circles. The league organized about 200 lectures and distributed several thousand pamphlets, reaching thus, directly, more than 100,000 persons. The Service d'assistance sociale, which was recently created, took care of domiciliary visits. The general assembly of the league decided: (1) to give to the propaganda a more public character, in order that as much may be done for cancer as has been done for tuberculosis, alcoholism and syphilis; (2) to collect funds with which to aid cancer patients of limited means, and (3) at the request of several foreign societies, to call, next November, an international congress to study the best means of combating cancer.

A Monument to Théophile de Baisieux

A committee has been formed, under the chairmanship of Prof. R. Schockaert, and the vice chairmanship of Professors de Mees (Louvain), F. de Beule (Ghent), and Drs. H. Pouillon and G. Timbal, for the purpose of collecting funds for the erection of a monument to the memory of Prof.

Théophile de Baisieux, former president of the Academy of Medicine and occupant of the chair of clinical surgery at the University of Louvain.

Death of Marc Roussiel

Dr. Marc Roussiel, agrégé professor at the university, in charge of the university course in clinical gynecology, has died at the age of 48.

BERLIN

(From Our Regular Correspondent)

April 21, 1928.

Health Conditions in Prussia During the Year 1927

Health conditions among the population of Prussia, during 1927, were comparatively favorable. We were practically undisturbed by any serious epidemics, such as the epidemic of 1926 in the region of Hanover. There were only two outbreaks of typhoid of any proportions. The first outbreak, which was traceable to infected cheese, comprised 175 cases and twelve deaths. The second outbreak, which spread over seventeen towns and villages through contact transmission from patient to patient, included 155 cases and resulted in fourteen deaths. As in recent years, there were frequent outbreaks of meat poisoning involving a considerable number of cases. There are two factors to blame for this manifestation: first, the increasing consumption of raw meat, and, second, the sale of inferior meat from diseased or injured animals. During the postwar period, diphtheria and scarlet fever were on the decline, but, during the past two years, they have increased. In 1927, the increase of both diseases was marked, while the number of scarlet fever cases, over 1926, was almost doubled. In the main, however, the diseases have run a mild course, so that the deaths have not increased in the same proportion as the morbidity. In Berlin and in some few cities to which the disease was carried from there—for example, Kassel—diphtheria appeared in a malignant form, and caused a case mortality of 12 per cent. In view of the increased incidence of the two diseases, the question was recently considered in the Landesgesundheitsrat (provincial council on health) as to what could be done to ward off, by means of protective inoculations, the threatening danger. In some parts of Prussia, especially in the sections of the province of Saxony that border on the Free State of Saxony, epidemic infantile paralysis was prevalent, evidently carried there from the focus of infection in Leipzig and vicinity. The number of cases and deaths was, however, considerably less than in 1926. Also puerperal fever shows still a comparatively high morbidity and mortality. Tuberculosis, which, during the postwar years, showed an increased incidence, appears to have been brought to a standstill; the number of deaths from tuberculosis has decreased. For a number of years, an increasing incidence of goiter has been observed in Prussia, particularly among the school children, which is ascribed by many specialists to a lack of iodine in the body. Following the example of Switzerland, in many sections of Prussia small quantities of iodine have been administered in an artificial manner, with undeniably good results, though it is too early to draw any final conclusions from these experiments. The observations will be continued, however, with great interest and attention.

The Importance, for Health, of Properly Heated and Ventilated Rooms

At a recent session of the Preussischer Wärmewirtschaftsverband, Prof. Dr. Schütz of the Hygienic Institute of the University of Berlin presented the attitude of the hygienist toward the problems of heating and ventilation. Nowadays, the view is quite generally held that disturbances of health may develop in closed rooms as a result of the giving off of heat from the human body. If the dissipation of heat from the body is lessened by the excessively high temperature of the rooms or too great dampness, especially sensitive persons suffer from fainting attacks, dizziness and similar manifestations. Over against this group of disorders there are others that are caused by insufficient heating of rooms. The heating expert must see to it that the source of heat is arranged in accordance with hygienic principles. The correct temperature for ordinary living rooms is from 17 to 19 C. (62.6 to 66.2 F.); children require from 18 to 21 C. (64.4 to 69.8 F); for sleeping rooms a temperature of from 14 to 16 C. (57.2 to 60.8 F.), or even less, is sufficient. The relative humidity in living rooms should be from 30 to 40 per cent; higher values (for example, 60 per cent) are found to be uncomfortable. The heating arrangements must, as far as is practicable, provide for adequate ventilation. The distribution of the heat in a room should be uniform. While all sources of heat may not meet, in an equally effective way, the demands of Professor Schütz, when the value of a heating system is estimated his demands should receive careful consideration. From the standpoint of economy, attention must be paid to the best methods of preventing unduly rapid escape of heat from living rooms. The dissipation of heat takes place through the walls, the windows, and the doors. Hence, in planning the construction of a house, adequate provisions must be made against wind and rain. From the standpoint of warmth, the so-called block house (one-family houses built in juxtaposition) and the apartment dwelling, or flat, are superior to the detached house. Great care must be taken to make the windows and doors tight-fitting. The use of insulation material on the inside of the walls will effect considerable economy.

The Pressing Machine as a Disinfection Apparatus

Hand and Strauss recommend in an article in the *Deutsche medizinische Wochenschrift* the use of the American steam pressers as an extremely economical and rapid method of disinfecting clothing, blankets and the like. The apparatus is especially well adapted for small and middle-sized hospitals and for sanatoriums, health centers, bath establishments, the smaller municipal administrations, hotels and sleeping car companies. The machines in question consist of two perforated boxed iron plates, the lower being stationary, while the upper, by means of a simple handle, may be brought down against the lower with an exact adjustment of the pressure desired. The steam enters and in a few seconds heats the object between the plates to a temperature of from 100 to 105 C. After the steam has penetrated the article to be disinfected, by the simple turn of a switch a vacuum is produced in the lower plate-box and the garment or other object is dried in the shortest space of time. One great advantage of the method is that the disinfected article can be returned to the owner in a few minutes. A man's suit of clothes can be disinfected in about eight minutes; a blanket requires from two to three minutes. The fabric does not suffer any injury. A blanket that has been pressed fifty times feels just as soft and woolly as at the start. The machine is exceedingly simple to use, and two such machines do not cost more than one disinfection apparatus.

Marriages

JACOB EASTON HOLZMAN to Miss Minette C. Sternberger, both of New York, January 10.

ELWOOD P. FLANDERS, York, Pa., to Miss Bertha L. Shay of Philadelphia, January 30.

EDWIN W. GOODMAN, Oakland, Calif., to Miss Myra Pauly of Berkeley, in April.

PAUL KELLER to Miss Helen Kraus, both of Newark, N. J., March 31.

WILLIAM G. BEEK to Mrs. Mae Fox, both of Chicago, May 8.

Deaths

Hideyo Noguchi, New York, died of yellow fever at Akkra on the pestilential Gold Coast of British West Africa, May 21, while completing researches on this disease that had been carried on wherever this plague still menaces the world. The noted Japanese investigator was born in Inawashiro, Yama, Fukushima, Japan, Nov. 24, 1876. After an education in the public schools and special instruction in German, French, English and Chinese literature, he graduated in medicine from Tokyo Imperial University in 1897. Subsequently he worked in the University of Pennsylvania, 1901-1903, and in the Statens Serum Institute of Copenhagen, 1903-1904. He received the honorary degree of master of science from the University of Pennsylvania in 1906. Thereafter Dr. Noguchi began to accumulate honorary degrees which represented a recognition of his work wherever scientific medicine is appreciated. A titular professorship was awarded him by the Imperial Government of Japan in 1911 and the degree of doctor of philosophy in 1914. He received the honorary degrees of doctor of medicine from the School of Medicine and Pharmacy of Yucatan in 1920, and of doctor of science from Brown University and from Yale University in 1921. Among other honors he was given the Royal Order of Isabella la Catolica by Alfonso XIII of Spain in 1913; the Order of Danneborg by Christian X of Denmark in 1913; the Order of Nordstierne by Gustav V of Sweden in 1914; the Order of Merit by the Emperor of Japan in 1915, and the Emperor's Medal and Premium by the Imperial Academy of Japan in 1915. The John Scott Medal of Philadelphia was awarded to him in 1921, and the Kober Medal of the Association of American Physicians in 1924. He was made Chevalier de la Légion d'Honneur of the French Republic in 1924. He was a member of the Association of American Physicians, the American Association of Pathologists and Bacteriologists, and the American Association of Experimental Pathology.

HIDEYO NOGUCHI, M.D., 1876-1928

To trace his romantic career involves a consideration of infectious diseases throughout the world. After his graduation in Japan in 1897, he became assistant in the General Hospital in Tokyo, where he served until 1898. He was then attached to the Government Institute for Infectious Diseases from 1898 to 1900, serving at the same time as quarantine officer at the Yokohama Harbor Station and as physician in charge of the Central Hospital of New Chwang in China under the International Sanitary Board. He also taught pathologic anatomy in the Tokyo Dental College. In the University of Pennsylvania in 1901 he became assistant in pathology; in 1903 he was research assistant in the Carnegie Institution, where he worked until 1904. He then entered into an association with the Rockefeller Institute for Medical Research, passing gradually from an assistantship until he became a member in 1914. Since that date every research completed by this notable figure has been a contribution to the scientific news of the day.

Among the contributions for which Dr. Noguchi was especially noted were pure cultivation of the syphilitic organism; the demonstration of the presence of the syphilitic organism in the brain in general paralysis and in the spinal cord in locomotor ataxia; cultivation of micro-organisms associated with infantile paralysis and rabies; the introduction of the luetin test for syphilis; the introduction of a method for obtaining a bacteria-free vaccine for smallpox; the isolation and cultivation of the micro-organism *Leptospira icteroides* associated with yellow fever, and simultaneously the development of a preventive vaccine and serum for use in treatment. His most recent publication dealt with an organism associated with trachoma in American Indians. In addition to hundreds of contributions to medical periodical literature, he was the author of a book on Snake Venoms, published in 1909; of The Serum Diagnosis of Syphilis and Luetin Reaction, in 1910, and of The Laboratory Diagnosis of Syphilis, in 1923.

Death from yellow fever while he was in the course of his investigations adds his name to the great roll of the martyrs of medicine who have sacrified their lives that thousands of other human beings might live free from the fear of disease.

Ayers Phillip Merrill ✦ Pittsfield, Mass.; Dartmouth Medical School, Hanover, N. H., 1905; past president of Berkshire District Medical Society; member of the Radiological Society of North America; at one time member of the state board of health; aged 52; on the staff of the House of Mercy Hospital, where he died, May 2, of intestinal obstruction.

Eldred Byron Waffle, Astoria, Ore.; University of Oregon Medical School, Portland, 1908; member of the Oregon State Medical Society; formerly laboratory demonstrator of anatomy at his alma mater; served during the World War; formerly on the staff of St. Mary's Hospital; aged 48; died suddenly, April 23, of cerebral hemorrhage.

John Sedgwick Billings, New York; University of Pennsylvania School of Medicine, Philadelphia, 1892; formerly member of the New York Health Department and deputy health commissioner; served during the World War; aged 58; died, April 27, at the Hospital for Ruptured and Crippled, of septic arthritis.

William Hough Mills, Syracuse, N. Y.; Syracuse University College of Medicine, 1881; formerly associate professor of hygiene and public health at his alma mater; for twenty-five years on the staff of the Hospital of the Good Shepherd; aged 77; died, April 28, of diabetes mellitus and chronic nephritis.

Mathias Southward Corlett, Madison, Wis.; Wisconsin College of Physicians and Surgeons, Milwaukee, 1909; member of the State Medical Society of Wisconsin; epidemiologist for the state board of health; aged 54; died, April 23, in a local hospital, of cholelithiasis and duodenal ulcer.

William Clarkson Smith, Woodbine, Pa.; University of Pennsylvania School of Medicine, Philadelphia, 1897; formerly on the staff of the York (Pa.) Hospital and health officer of York; school inspector for many years; aged 54; died, April 28, of myocarditis and chronic nephritis.

Austin Henry Seeds, Columbus, Ohio; Ohio State University College of Medicine, Columbus, 1915; member of the Ohio State Medical Association; served during the World War; aged 36; died, April 16, at the Grant Hospital, of gunshot wounds inflicted by a patient.

A. Philip Zemansky, Jr., New York; Columbia University College of Physicians and Surgeons, New York, 1923; member of the Medical Society of the State of New York; aged 28; died, May 5, at the Mount Sinai Hospital, of septicemia following a mastoid operation.

Warren Edgar Benson, Marietta, Ga.; Atlanta College of Physicians and Surgeons, 1911; member of the Medical Association of Georgia; past president of the Cobb County Medical Society; served during the World War; aged 40; died in April, of spinal meningitis.

Howard McDougall Cameron ✠ Sacramento, Calif.; University of California Medical School, San Francisco, 1896; member of the Pacific Coast Oto-Ophthalmological Society; aged 55; died, March 21, at a local hospital, of angina pectoris.

Martin LeRoy Williams, Warren, Ohio; University of Michigan Medical School, Ann Arbor, 1871; member of the Ohio State Medical Association; aged 79; died, April 22, at the Cleveland (Ohio) Clinic Hospital, of acute nephritis.

Lincoln Laconia Burwell, Selma, Ala.; Leonard Medical School, Raleigh, 1889; also a druggist; on the staff and formerly proprietor of an infirmary bearing his name; aged 61; died suddenly, March 6, of cerebral hemorrhage.

John Ross Mackenzie, Carrington, N. D.; University of Toronto Faculty of Medicine, Toronto, Ont., Canada, 1893; served during the World War; aged 57; died, April 16, at San Diego, Calif., of carcinoma of the throat.

Herbert Louis Celler ✠ New York; Columbia University College of Physicians and Surgeons, 1900; served during the World War; on the staff of Mount Sinai Hospital; aged 50; died, April 26, of disease of the coronary artery.

Albert Butts Hinkle, Macon, Ga.; Medical Department of the University of the City of New York, 1889; aged 62; died, February 14, at San Diego, Calif., of cerebral hemorrhage, chronic nephritis and myocarditis.

Napoleon Bonaparte Gearhart, Huron, S. D.; Iowa Medical College, Des Moines, 1885; member of the South Dakota State Medical Association; aged 66; died, March 14, of diabetes mellitus.

Hugh Donahue, Haverhill, Mass.; Harvard University Medical School, Boston, 1888; member of the Massachusetts Medical Society; aged 63; died, in April, of cerebral hemorrhage.

Etta Hill Chambers Schnauffer, Los Angeles; Willamette University Medical Department, Salem, 1895; aged 62; died, January 22, of arteriosclerosis and acute dilatation of the heart.

George Wendell Bothwell, Waterloo, Iowa; Chicago Medical College, 1877; Civil War veteran; aged 84; died, April 23, at Des Moines, of cerebral hemorrhage.

Quintin Moore Brown ✠ Nevada, Mo.; University of Louisville (Ky.) School of Medicine, 1911; aged 40; died, April 28, of transverse myelitis, following influenza.

John Arthur Burke, Crawford, W. Va.; Kentucky School of Medicine, Louisville, 1893; aged 65; died suddenly, March 20, of angina pectoris, while attending a patient.

Algie Huffman Shock, North Manchester, Ind., Indiana University School of Medicine, Indianapolis, 1911; aged 38; died in January, in a hospital at Indianapolis.

Joaquin Bernabe Arteaga, Atlanta, Ga.; Emory University School of Medicine, Atlanta, 1925; aged 26; died, April 5, at the Davis-Fischer Sanitarium, of meningitis.

Travis Alexander Bullington, Louisville, Ky.; Vanderbilt University School of Medicine, Nashville, Tenn., 1889; aged 67; died, April 9, of chronic bronchiectasis.

Samuel Johnson Hall, Louisville, Ky.; Louisville Medical College, 1894; aged 62; died, April 29, at the Deaconess Hospital, of intestinal obstruction.

John F. Kinney ✠ Bennettsville, S. C.; Medical College of the State of South Carolina, Charleston, 1893; aged 57; died, April 21, of cerebral embolism.

George Stanton Hodson, Washington C. H., Ohio; Pulte Medical College, Cincinnati, 1894; aged 61; died, April 29, of cerebral hemorrhage.

Lafayette Ringle, Los Angeles; Eclectic Medical Institute, Cincinnati, 1878; aged 78; died, April 11, of myocarditis and chronic nephritis.

Cyril Joseph Hodapp ✠ O'Fallon, Ill.; St. Louis University School of Medicine, 1925; aged 29; died suddenly, April 30, of heart disease.

George Wheaton Nickerson ✠ Stoneham, Mass.; Medical Department of Columbia College, New York, 1878; aged 76; died, April 27.

Michael P. Fenelon ✠ Jourdanton, Texas; Rush Medical College, Chicago, 1898; aged 59; died suddenly, March 1, of heart disease.

William B. McKinstry, South Bend, Ind. (licensed, Indiana, 1905); aged 58; died, April 24, at Logansport, of paralysis.

Francis Mahlon Smith, Dover, Ky. (licensed, Kentucky, years of practice); aged 79; died, April 17, of heart disease.

Marion Francis Setters, Spokane, Wash.; Denver College of Medicine, 1897; aged 57; died, April 6, of pneumonia.

Bureau of Investigation

R. P. N. TABLETS

Another Mail-Order "Epilepsy Cure"

Probably because the postal authorities have issued no fraud orders against the various swindles that are at present thriving all over the country in the "epilepsy cure" field, new fakes of this type are springing up monthly. The old-time "epilepsy cure" quack used bromides exclusively and, while every physician knows that bromides do not cure epilepsy, these wretched nostrums were and are exploited under the claim, either direct or implied, that they cure epilepsy.

Many of the "epilepsy cure" quacks of today use phenobarbital (luminal) as the essential ingredient of their nostrums and they, too, are directly or by inference giving the epileptics to understand that they have a wonderful cure for epilepsy. Still the postal authorities make no move. This, too, in spite of the fact that phenobarbital carries with it much greater potentialities for harm, because of its toxic and habit-forming tendencies, than do the bromides.

One of the latest humbugs in this field of mail-order quackery is the product called "R. P. N.," put out by the Arpen Laboratories which does business from a postoffice box in Milwaukee, Wisconsin. In the booklet sent out by the Arpen Laboratories, the sufferer from epilepsy is led to believe that, in R. P. N. Tablets, there is a cure for his ailment. Not that anywhere in their printed matter do they lie bluntly and frankly; no modern mail-order quack does business that way. He lies, invariably, by inference. Such disingenuousness brings him just as many dollars and is much safer. Some of the claims made by the Arpen quacks are:

"What could be a greater boon to mankind than relief to epileptics? The ideal treatment for those who suffer is R. P. N. Tablets."

"The R. P. N. Tablets, according to actual reports of users, have proven successful to the different types of symptoms."

"Epileptics everywhere are praising the R. P. N. Tablets and reporting results seemingly miraculous."

"R. P. N. Tablets not only are recommended as an aid in stopping the attacks but also are a physical body builder to aid in bringing back normal health to the patient."

Such claims, and others like them, can mean only one thing to the sufferer—that here, in R. P. N Tablets, is a cure for epilepsy. Then follows the usual farrago of testimonials, without which no quack can do business. Because of inquiries received, it seemed desirable to make an analysis of R. P. N. Tablets. The report of the A. M. A. Chemical Laboratory on this product follows:

LABORATORY REPORT

"Two original bottles of 'R. P. N. Tablets,' a treatment for epilepsy (Arpen Laboratories, Station C, Milwaukee, Wisconsin), price $4, were submitted to the A. M. A. Chemical Laboratory for examination. The directions were:

'Adults: Take three tablets after each meal. Dissolve the tablets in a quarter glass of water, follow this with another half glass of water. You may commence with one tablet and increase to three as the case may require. Children: The dose must be regulated according to age.'

"Each bottle contained 137 uncoated tablets, possessing a brown color and characteristic bromide taste. The average weight of each tablet was 0.68 grams (approximately 10 grains). Qualitative tests indicated the presence of ammonia, sodium, potassium, bromide and chloride. Calcium, strontium, lithium, heavy metals, iodides, sulphates, carbonates and alkaloids were not found. Phenolphthalein and emodin-bearing drugs were not found. Quantitative determinations yielded the following results:

"Ammonium (NH_4^+)	5.29 per cent
"Sodium (Na^+)	15.79 per cent
"Potassium (K^+)	0.15 per cent
"Bromide (Br^-)	74.74 per cent
"Chloride (Cl^-)	0.71 per cent
"Moisture	0.44 per cent
"Excipients, etc. (By difference)	2.88 per cent
	100.00 per cent

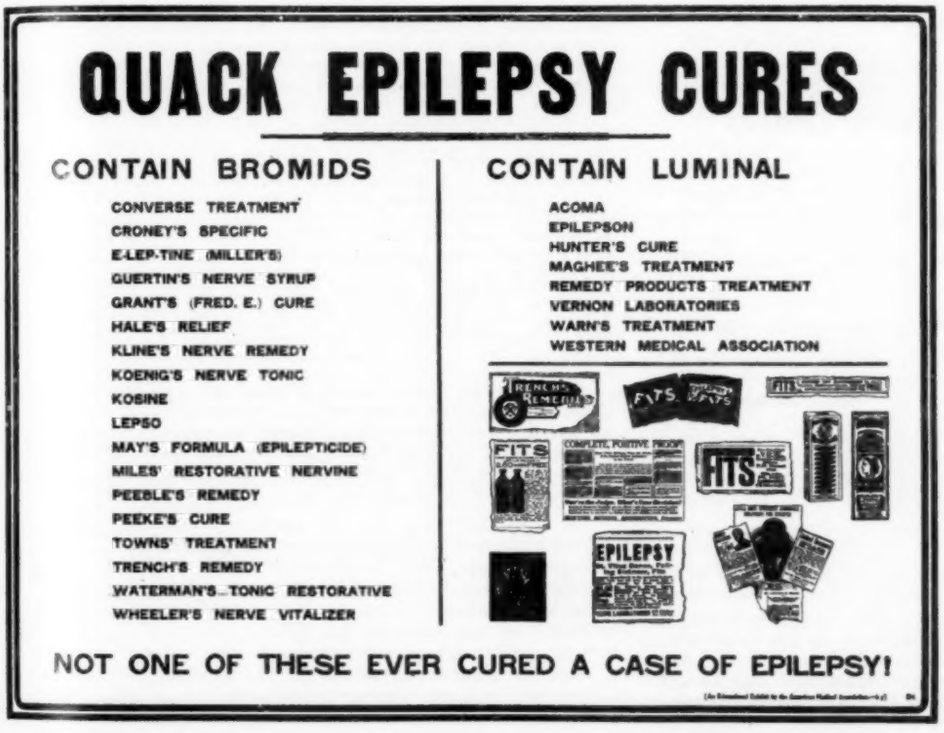
"From the foregoing, it may be concluded that R. P. N. treatment for epilepsy consists essentially of sodium and ammo-

nium bromides, with small amounts of potassium bromide and sodium chloride, equivalent to:

"Ammonium bromide	28.78 per cent
"Sodium bromide	65.61 per cent
"Sodium chloride	1.68 per cent
"Potassium bromide	0.45 per cent

"Each tablet, therefore, would be equivalent to 0.2 gram (3.0 grains) of ammonium bromide; 0.45 gram (7 grains) of sodium bromide; 0.11 gram (1¾ grains) of sodium chloride, and 0.0031 gram (1/20 grain) of potassium bromide; and each daily dose (nine tablets) would be equivalent to approximately 1.8 grams (27 grains) of ammonium bromide; 4.0 grams (62 grains) of sodium bromide; 1.0 grams (15 grains) of sodium chloride and 0.03 gram (½ grain) of potassium bromide."

From the foregoing report, it will be seen that R. P. N. Tablets belong to the old-time group of quack "epilepsy cures," consisting of mixtures of bromides. In spite of the advertising, the stuff, of course, will never cure a case of epilepsy, while, indiscriminately used—as it must be—by persons who are ignorant of the fact that it contains bromides, the nostrum may easily result in adding to the epileptic sufferer's condition the dangers of bromism.



A miniature reproduction of one of the forty posters on quackery and nostrums prepared by the Bureau of Investigation. The originals are 22 inches by 28 inches in size. An illustrated catalogue of these posters will be sent on request.

Use of Gas from Sewage.—How gas given off by disintegrating sewage at the disposal plant at Antigo, Wis., is used for fuel in heating plant buildings was told by Jerry Donohue, consulting engineer at Sheboygan, in a talk at the convention of the Engineering Society of Wisconsin. Gas from the sewage at the Antigo plant has 640 British thermal units per cubic foot, Mr. Donohue said. During the first seven months of operation more than 1,000,000 cubic feet of gas passed through the meter. This amount had a heat value equivalent to 18 tons of soft coal. The gas-collecting feature requires a tight concrete roof and a special dome. The gas is piped to the boiler room and burned under regular gas-burning boilers. The gas is also used to heat the sewage which has extended the season during which digestion takes place from a normal two months in Wisconsin to a full twelve months. Odors are eliminated in the process and the result is a well-digested sludge which is valuable as fertilizer. —*Wisconsin M. J.* **27**:135 (March) 1928.

Correspondence

"THE PASSING OF THE PESSARY"

To the Editor:—I have read with a great deal of interest the editorial on this subject in THE JOURNAL, April 14. This is an excellent editorial if closely analyzed. The rank and file of the profession, however, will draw the conclusion from the editorial that the pessary is an obsolete instrument and that surgery is the proper treatment for all cases of retrodisplacement.

The pessary serves its most useful purpose in uncomplicated cases of retrodisplacements that can be put back in place. In cases of this kind the pessary should be inserted and if the symptoms do not disappear one may arrive at the conclusion that the retrodisplacement is not the cause of the symptoms and under these circumstances an operation will be of no benefit. On the other hand, if the symptoms disappear one may be certain that the retrodisplacement is producing the symptoms present and under these circumstances a trial treatment with the pessary should be carried out. If in due time the pessary is removed and the retrodisplacement recurs, then the patient may select either an operation or a continued pessary life.

The pessary is contraindicated when there is present one or more of the following conditions: (1) relaxation of the pelvic outlet; (2) lacerations of the cervix; (3) a pathologic condition of the appendages, and (4) displacement that is bound down by adhesions. Under these conditions it is not the displacement that is responsible for most of the symptoms, and the correction of the displacement alone will not relieve the patient. It is much more important to relieve the associated pathologic condition than it is to relieve the displacement alone.

I consider the stem pessary a dangerous instrument and one that should be used only in exceptional cases. In cases of prolapse in which operation is contraindicated, patients derive a great deal of comfort from a propertly fitting rubber ring pessary. The up-to-date obstetrician uses the pessary almost daily in postpartum and frequently in prenatal cases.

The day of the pessary has not passed. Its indications and contraindications are well defined. The greatest blot on American surgery at the present time is the large number of unnecessary operations for uncomplicated retrodisplacements. My reason for writing this letter is to make clear the uselessness of surgery in uncomplicated retrodisplacements, and the only way that this can be demonstrated is by making a therapeutic test with a pessary.

LUCIUS E. BURCH, M.D., Nashville, Tenn.
Head of the Department of Obstetrics and Gynecology, Vanderbilt University School of Medicine.

"LATERAL CURVATURE OF THE SPINE IN PERINEPHRITIC ABSCESS"

To the Editor:—I have read the articles by Drs. Philip J. Lipsett and Edwin Beer in THE JOURNAL, April 28, in which they describe a lateral curvature of the spine in perinephritic abscess and state that a search of the literature has failed to reveal any previously published communication regarding this sign. In an article entitled "The Diagnostic Significance of Lateral Curvature of the Spine Caused by Muscular Spasm" published, Sept. 30, 1926, in the *Boston Medical and Surgical Journal*, I called attention to this sign, which also occurs in other pathologic conditions of the kidney, and called it spasmodic scoliosis. In December, 1925, an extensive study was undertaken with the assistance of Dr. H. M. Imboden, professor of roentgenology at the Cornell Medical College, which resulted in the foregoing publication.

JOHN R. CARTY, M.D., New York.
Chief, Clinic of Roentgenology, Cornell University Medical College.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS and queries on postal cards will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

TREATMENT OF HYPERHIDROSIS

To the Editor:—A laborer, aged 30, has had excessive hyperhidrosis since childhood. The remedies prescribed and used have not produced any benefit. Can you suggest any line of treatment or drugs that would improve or cure this condition? Please omit name.

M.D., Kewaunee, Wis.

ANSWER.—The local application of a 25 per cent solution of aluminum chloride N. F. in distilled water gives temporary relief in excessive hyperhidrosis. Two or three applications on alternate days are sufficient. There is no treatment of generalized hyperhidrosis.

DANGER TO PHYSICIAN OF INOCULATION WITH SYPHILIS

To the Editor:—A patient, aged 40 years, with a normal blood pressure, developed a typical hemiplegia. The past history is that of syphilis, a formerly positive Wassermann reaction, and intravenous treatment. Following a small, initial injection of neoarsphenamine, 0.1 Gm., the operator pricked his finger with the needle after withdrawing it from the vein. The puncture was deep enough to draw blood. Is the operator likely to develop syphilis? If a direct subcutaneous inoculation did occur, can a primary lesion be expected to appear at the site of the puncture the same as following a superficial inoculation? I have the recollection of having been taught many years ago that a subcutaneous inoculation might result in the skipping of primary and secondary lesions. Is this in accord with present views? Kindly omit name.

M.D., Kansas.

ANSWER.—After the active secondary period, after the time of the generalized eruption and the other symptoms of an active general infection, the infectiousness of the blood in syphilis rapidly decreases, until in tertiary syphilis, that is, the later period of the disease, when its manifestations are localized in circumscribed areas, the blood becomes practically noninfectious. Even in early syphilis the number of spirochetes in the blood is so few that to produce infection by uncontaminated blood a larger amount has to be injected than is involved in any accidental injury. For all practical purposes, then, the danger of contracting syphilis by a wound with an instrument simply contaminated with the blood alone of a syphilitic patient is negligible.

If an infection from breaking the skin with an instrument contaminated with syphilitic blood should occur, it would be accompanied by a chancre at the site.

The possibility of direct infection through the blood, so-called syphilis d'emblée—that is, introduction of the infectious material into the blood, its development there and systemic infection occurring therefrom without a local primary lesion—is a question that is *sub judice*. Experimentally, by the use of a relatively large amount of blood, from an active early case of syphilis, syphilis can be produced by intravenous introduction into the blood. Even in this way, under experimental conditions, it is an exceedingly difficult thing to do. Under ordinary conditions of wounding with a contaminated instrument the possibility of such transmission is so small as to be absolutely nil.

RADIUM EMANATION—MEASUREMENT OF RADIUM—NEW AND NONOFFICIAL REMEDIES

To the Editor:—In THE JOURNAL, March 31, the Council on Pharmacy and Chemistry reported the "omission of Radio-Rem from New and Nonofficial Remedies, because it is used as a means of furthering the sale of the Radium Ore Revigator, which is exploited to the public with false claims for the therapeutic efficiency of radium emanation." In the report is the statement that "the Council will not accept any apparatus which imparts less than 2 microcuries (2,000 millimicrocuries) of emanation to water stored in it for twenty-four hours; the water which had been in one of the Revigator pots for forty-six hours was found to contain only 0.0304 microcurie (30.4 millimicrocuries) of emanation." (*a*) I should like to ask why the Council will not accept a radium emanation of less than 2 microcuries. I am not arguing in behalf of the Revigator, but rather to gain information from your reply which I would appreciate. With the appearance of these Revigator jars in this community, I have been searching what literature that is available to me, and I find very little about radium and radium emanation in my books which are of comparatively recent editions, as I graduated in 1924. However, I have found many interesting articles in some of the scientific magazines, but have not yet obtained the information that I should like to have. (*b*) What is the difference between a mache unit and a curie, microcurie or millimicrocurie? Some writers speak of radium emanation in terms of mache units, others in microcuries. (*c*) In THE JOURNAL, Dec. 5, 1925, was an interesting article by Harrison S. Martland, M.D., Philip Conlon, M.D., and Joseph P. Knef, D.D.S. This article tells of electrometer tests made on the expired air of a patient having radium poisoning and on the viscera and bones post mortem. Can you tell me where I can purchase such an electrometer to measure quantitatively in microcuries emanation in air, water or solids? I wrote to Dr. Martland, but he did not reply. (*d*) In THE JOURNAL, March 24, page 68 of the advertising section, the list of A. M. A. publications does not include "New and Nonofficial Remedies." Is there such a volume, and if so, by whom published?

M.D., Ohio.

ANSWER.—(*a*) The Council adopted this requirement because those who reported favorably on the oral use of radium or radon had used a daily dosage which was not less than that adopted by the Council as to minimum requirement.

(*b*) See Radium and Radium Salts (Measurements and Units) New and Nonofficial Remedies, 1928, p. 325.

(*c*) The apparatus may be obtained from dealers in scientific instruments; for instance, the Central Scientific Company, 460 East Ohio Street, Chicago.

(*d*) New and Nonofficial Remedies is published by the American Medical Association. The 1928 edition is now ready and will be sent postpaid for $1.50.

SILVER PLATE AFTER TREPHINING—SYPHILIS AND BONE UNION

To the Editor:—1. Please advise whether silver plates or any other material is being used to replace the bone following trephines when large pieces of bone have been removed. 2. Is it not considered by the best of authorities that syphilis interferes with bone union in fracture cases? Please omit name.

M.D., Arkansas.

ANSWER.—1. In those cases in which there has been a considerable loss of bone as the result of trauma to the skull, the symptoms exhibited by the patient constitute the indications for attempts to repair by plastic methods the defect which is present. That is to say, if it appears that the dura mater is adherent to the overlying scalp and if the patient is having epileptic seizures or some other evidence of brain irriation, it may be advisable to consider a plastic operation.

The accepted method of repairing a defect in the bone of the skull is by the use of bone grafts taken from the ribs or from the tibia. The use of silver or other metals to correct the defect is not now an acceptable method of surgical procedure.

2. It is at present considered that syphilis does not interfere with bone union any more than other constitutional diseases. It probably affects union in proportion to such disturbances of nutrition as may occur.

In answer to a similar query in THE JOURNAL, Aug. 27, 1927, p. 712, it was stated that local factors are believed to be the cause of delayed or nonunion of fractures in most instances. Bone healing may be retarded by constitutional diseases because of general lowering of vitality or because of their effect on the blood or on some special organ.

Syphilis has been thought by some authorities to retard bone union. Cotton (Dislocations and Fractures, ed. 2, Philadelphia, W. B. Saunders Company, 1924), however, stated that he had not seen nonunion in numerous fractures in syphilitic patients. In tabes, he says, healing may be delayed. There is little evidence of any specific effect on disturbed bone healing in syphilis.

MILK FROM COWS FED ON CORN ENSILAGE

To the Editor:—I should like to know the injurious effects, if any, that are likely to occur to babies fed on milk from cows fed with corn ensilage.

C. E. PATTERSON, M.D., Fayette, Ohio.

ANSWER.—Most of the milk that is supplied during the winter to Northern cities and towns for infant feeding is derived from cows fed with corn ensilage. This includes certified milk. Careful observers will agree that babies fed on milk produced in this manner thrive, gain in weight and remain free from deficiency diseases. On the other hand, it has been maintained that typical winter farm milk is deficient in vitamins. McCollum (The Newer Knowledge of Nutrition) quotes a number of authorities who believe that cattle do not assimilate sufficient calcium, even if given a ration rich in calcium, such as dry alfalfa hay, corn ensilage and a grain mixture to keep the animal in positive calcium balance. These authorities think there is something in fresh green feed which affects calcium assimilation as well as milk production. On the other hand, ensilage properly prepared and preserved should be regarded as a green food which retains in part at least, the qualities of fresh green food and vitamins. So far as known, there is no serious objection to the feeding of ensilage to dairy cattle.

TREATMENT OF EMPYEMA

To the Editor:—A boy, aged 9 years, has had a postinfluenzal empyema for eight weeks, with very free drainage through a tube in the rib-resection opening. Smear and culture show pneumococcus and staphylococcus; the odor is intense. A roentgenogram indicates much thickening of pleura. The temperature ranges from 98.6 F. in the morning to 101 in the evening, with exacerbations to 103 for about two successive evenings each week. The patient is eating fairly well; he cannot stand anything that interferes with absolute quiet in bed and absolute freedom from excitement, without unwonted rise in temperature. For a month condition has been stationary with no diminution of the discharge, which is as free as at any time. Is diathermy indicated? If so, to what extent may it be used with probable benefit? Would its use constitute perhaps a major factor in recovery? Please omit name and address.

M.D., Montana.

ANSWER.—Diathermy is not indicated and would be of little if any avail. Its use would not be a major factor in recovery.

Exposure to sunlight has been shown to be of considerable value in conjunction with other approved measures, in the treatment of infections of the serous cavities. It should not be used in the presence of acute intercurrent infections, high fever, severe nephritis or advanced circulatory disease. If for any reason direct sunlight cannot be used, ultraviolet radiations from either the mercury vapor lamp or the carbon arc lamp may be substituted, care being taken not to burn the patient. Ordinarily, in using the mercury quartz vapor lamp, the initial dose is from two to three minutes, front and back, the exposure being increased one minute at each treatment, which is given three times a week, until the dose is approximately ten minutes, front and back.

In the case presented it would seem that one should determine definitely that no walled off pocket of pus exists, and then the pleural cavity should be treated by the Dakin method daily, if this is not already being done. This usually is of the utmost value, unless it is contraindicated by the presence of a bronchial fistula, which causes a severe spasmodic cough when the solution is instilled and indicates that this treatment should be discontinued.

TREATMENT OF INTERSTITIAL KERATITIS

To the Editor:—Kindly advise me of the latest treatment for interstitial keratitis, caused by hereditary syphilis, in a child, aged 5 years, with a ++++ Wassermann reaction. I have given six doses of sulpharsphenamine and six of bismuth and two doses of mercuric salicylate, 1½ grains (1 Gm.). Both eyes are badly affected; one has cleared up but the other has not.

D. J. HERRINGTON, M.D., Cushing, Okla.

ANSWER.—The treatment for interstitial keratitis is local and general.

Local treatment during the period of progression or acuteness consists of combating the inflammation by protecting the eyes from light (dark glasses) and by instilling 0.5 per cent solution of atropine sulphate three times a day, which latter counteracts the ruinous complications arising from iritis. Moist hot compresses often ameliorate the symptoms of irritation. Ethylmorphine hydrochloride (dionin), 5 per cent, three times a day, acts favorably on the photophobia and pain.

In the regressive period, as thorough a clearing up of the cornea as possible should be secured. For this purpose ethylmorphine hydrochloride again and mild mercurous chloride (calomel), or 2 per cent yellow mercuric oxide (yellow oxide of mercury) ointment should be used, though only when after cautious test a state of renewed irritation is not produced. It is advisable to continue these remedies interchangeably for months or years. The importance of the local treatment is to prevent complications arising from the uvea and to secure a more rapid and perfect clearing of corneal opacities.

General treatment must be directed against syphilis and is the same as any other tertiary antisyphilitic treatment—a combination of the administration of arsenicals, bismuth compounds, mercury and iodides. The details of antisyphilitic treatment of tertiary syphilis may be found in any of the recent works on syphilis.

Good hygienic measures are of great value, such as fresh air, exercise, good diet and cod liver oil.

This is essentially a chronic and obstinate disease. However, with perseverance in the course outlined, even the most unpromising cases do well and after months of disabilities the child usually gets well with restored eyesight.

TREATMENT OF INFANTILISM

To the Editor:—A girl, aged 18 years, has never developed physically. Mentally she is up to the average, having graduated from high school and now taking a postgraduate course. She has the appearance of a child of about 12. Is there any treatment with glands or otherwise advised which would be of any value? Kindly omit my name.

M.D., Connecticut.

ANSWER.—The condition referred to undoubtedly belongs to the group which is recognized as a disorder known as infantilism. Various forms of this disorder have been recognized. Lorain described a type which he designated as dystrophic degeneration, characterized by general arrest of development. The individual is usually undersized, may show adult proportions of the body, and frequently exhibits a general dystrophy and subnormal mentality. These persons may be spoken of as adults in miniature.

Another type is occasionally encountered in which myxedema is recognized with a persistence of certain morphologic signs of infancy and a failure of normal sex development. This type seems to depend for its existence on an insufficiency of the thyroid gland. On the other hand, several glands of internal secretion may be defective or insufficient and produce the so-called pluriglandular infantilism, though accurate knowledge concerning the physiologic correlation of these glands has not been definitely determined. From the clinical description contained in the question, no detailed clinical examinations are given, such as body proportion, texture of the skin and hair, basal metabolism or sugar tolerance. Nevertheless, one may say that thyroid extract in moderate doses might be used if there is evidence of hypothyroidism. Other gland treatment, such as combinations containing ovarian extract, has been particularly recommended by French observers, who have reported favorable results, though it must be frankly admitted that pluriglandular treatment has been disappointing. With the exception of hypothyroid dwarfism treated with desiccated thyroid, little or nothing has been accomplished by the use of glandular therapy.

There are those who believe that a delay in the development of the genital organs, either primary or secondary in nature, may lead to physical or mental retardation. The normal development of puberty is intimately related to the maturity of the gonads. Sexual maturity is considered with normal physical and mental growth at the period of puberty. If maturity is delayed, these individuals remain children; or where sexual maturity is never acquired a condition of infantilism persists.

It is well known that patients suffering from thyroid deficiency may give decided evidence of dysthyreogenous infantilism, producing the manifold and variable characteristics of myxedema or cretinism. On the other hand, diseases of the hypophyseal gland, especially if occurring at the pubescent period, may tend to retard transition from childhood to adolescence.

It is thought that constitutional disturbances such as tuberculosis and syphilis, and also interstitial nephritis, may cause lack of physical development.

TREATMENT OF PRURITUS OF UNKNOWN ETIOLOGY

To the Editor:—A member of my family, a woman about 50 years of age, has suffered for a year past from a most distressing itching of the back, commencing over the prominence of the left shoulder blade and extending later over an area of about 6 inches to the right and downward. The skin appears normal and there is no cause apparent. She is an exceptionally healthy woman and has been so for the past twenty years. As an infant she is said to have had an extreme case of eczema and had more or less of skin trouble until 15 or 16 years of age. At about 1 year she developed bronchial asthma of a rather severe type, which continued until about 34 years of age, when change to California, a higher altitude, and several nasal operations completely relieved the condition. She had one attack while at the coast in twenty years. As a child she had nasal polypus rather incompletely removed. She had a large axillary gland abscess at about 15 years of age. The asthmatic attacks were severe and frequent during a period of nearly thirty years, coming regularly every one to three months and lasting from three to six or seven days, during which time she experienced extreme dyspnea. That is, the attacks were decidedly severe; the last, occurring about eleven years ago, was mild, occurring only at night, but continuing until she left the coast, about one week. About eight years ago she contracted what appeared to be estivo-autumnal malaria, which recurred for about one and one-half years. Since that time she has been very well except for an occasional attack of what used to be called "biliousness," characterized by anorexia, nausea, fever, and sometimes severe pain in the neighborhood of the stomach. These attacks are now aborted by administration of from 5 to 10 grains of mild mercurous chloride (calomel) at the first suspicion of trouble. The bowels are kept active by a variety of laxatives and hydragogues. She is an exceptionally active woman, accomplishing a remarkable amount of work. Except for an apparently sluggish liver, she is now in perfect health. The itching referred to is causing her to lose considerable sleep, and any suggestion will be thankfully received. M.D., Calif.

ANSWER.—Localized pruritus is one of the most difficult of therapeutic problems. Among the many possible causes of this disorder, whether local or general, are disturbances of sugar metabolism, disease or malignancy of the internal organs, especially the liver, mental disturbances, disorders of the menopause, leukemia, malaria and tuberculosis.

If a causative factor is found, its treatment may cure the pruritus or it may fail to do so. Local treatment should always be used in conjunction with general measures. The irritation of soap should be avoided by the use of bran or oatmeal baths, and the part should be patted dry instead of rubbed. Of course, rubbing and scratching should be avoided. A soothing lotion containing from 0.5 to 1 per cent phenol, 1 or 2 per cent menthol, and 2 per cent or more of chloral hydrate should be given the patient with instructions to use it whenever tempted to scratch. The bath should be followed with dusting powder generously applied. Unna's gelatin paint (zinc oxide, 10 parts; gelatin, 30; glycerin, 30, and water, 30 parts) may be applied while hot and may afford still better protection.

Mild roentgen-ray treatments (¼ skin unit once a week) may be tried.

General treatment should include the interdiction of alcohol, tobacco, hot or spicy foods, coffee and tea. Calcium chloride in large doses (from 1 to 4 Gm., or 15 to 60 grains) dissolved in water may be given twice a day. Quinine, even in the absence of malaria, is sometimes of benefit. Pilocarpine given hypodermically to the point of slight perspiration or salivation is recommended. Bromides or similar drugs may be given.

DIAGNOSIS OF INFECTED TEETH

To the Editor:—Please send me information on the following points: 1. Value and limitations of roentgen-ray diagnosis of dead teeth as to presence or absence of infection. 2. Effect of the presence of a dead tooth (foreign body) on adjacent tissues and the general health if there is no infection. 3. Modern medical opinion regarding the filling of root canals, crowns, peg-teeth, drainage of apical abscess and later filling root canals. 4. Value of transillumination in the diagnosis of apical infection. M.D., Iowa.

ANSWER.—1. The roentgen ray is of no value in diagnosing teeth with dead pulps except in those cases in which infection, following the death of the pulp, has penetrated and destroyed bone about the apex of a root. The roentgen ray does not show infection of bone, but reveals an area of bone which may have been destroyed by infection or otherwise.

2. There is no such thing as a dead tooth unless it has been extracted. A tooth from which the pulp has been removed is often spoken of as a dead tooth. The pulp occupies the internal canal of the tooth, while the attachment of the root to the bone (peridental membrane) is an entirely separate tissue and may be vital regardless of the vitality of the pulp. A tooth from which the pulp has been removed may not present any menace to the patient.

3. This is answered in number 2. There are records of many thousands of cases in which pulps have been removed and root fillings made which, from all the evidence available, do not show any sign of infection after many years.

4. Transillumination is not generally considered satisfactory for the diagnosis of apical infection.

INTRAVENOUS TREATMENT OF ENCEPHALITIS WITH ACRIFLAVINE BASE

To the Editor:—I have gone over carefully your answer to a recent query from a physician who desired the exact dosage and the availability in this country of a drug given intravenously by a German authority for postencephalitis residuals. I gather from this answer that the drug used is what we term neutral acriflavine. I cannot determine the exact dosage you prescribe in the statement. Please do not print my name. M.D., Illinois.

ANSWER.—Our correspondent refers to a portion of an item entitled "Treatment of Encephalitis with Acriflavine" (THE JOURNAL, March 31, p. 1063). The portion referred to was based on an article by E. Marx to which the reference is given in the item. Marx gave a dosage which is confusing. The dosage as published in THE JOURNAL is exactly as Marx gave it in the German article and it is not possible to clarify his statement further.

Nevertheless, the dosage advised for intravenous administration of a preparation of acriflavine base ("neutral acriflavine"), such as those passed by the Council on Pharmacy and Chemistry, is from 20 to 50 cc. of a 0.5 per cent solution. The diluting fluid used is physiologic solution of sodium chloride. This may be repeated in twenty-four hours.

TREATMENT OF PRURITUS IN THE AGED

To the Editor:—A man, aged 76, has had pruritus ani for the last eight years. The condition does not respond to the various ointments and treatments that I have used. In the last two months it has seemed to be getting worse and there is a little moisture about the parts which has not been noticed before and causes the patient more distress, taking on somewhat the form of an eczema. Would ultraviolet radiation help the condition? What would you suggest that I try at the present time to cure this condition? M.D., Iowa.

ANSWER.—It is a fair assumption from this description that the patient has senile pruritus, a spontaneous itching in the atrophic skin of old age, which has lost part of its resistant qualities and has become more sensitive to external irritants. In addition to the lowered resistance to external irritation of the skin, from its thinning, its resistance is lowered also by the decreased activity of the sweat and sebaceous glands, especially the latter, which do not supply the necessary amount of lubrication to the skin and therefore reduce still further its resistant qualities. There is nothing that will entirely cure the condition, but it can be palliated by measures directed to meeting the defects in the skin. Its deficiency in fat can be overcome by applying a lubricant. The yellow heavy liquid petrolatum, not the colorless kind, is as good as any grease with which to soften the skin, and it has the advantage of not becoming rancid. The skin should be lightly anointed with this often enough to keep it slightly greasy, say once in two or three days, and always after a bath. The patient should bathe as seldom as he can with proper attention to decency, and it is sometimes desirable to avoid entirely complete baths. The bath can be made more bland by putting into it from half a gallon to a gallon of boiled corn-starch (ordinary starch paste). Soft cotton underclothes should always be worn next the skin. Talcum powder, powdered over the body, night and morning, except when the patient has just put on the grease, is soothing and protecting. In winter time, when the condition is worse because of the increased irritant qualities of cold dry air, there is need for more anointing of the skin and at the same time the patient should be warmly clad, but never with wool next the skin. Antipruritic applications do little good. There is no objection, however, to putting 20 or 30 drops of camphor-phenol or camphorated menthol and 20 or 30 drops of camphorated chloral to the pint of petrolatum. When an actual dermatitis develops from scratching, the surface should be treated as an ordinary dermatitis, washing entirely avoided and the surfaces covered by a bland ointment, best applied on bleached cheese-cloth, if this can be done without the use of adhesive plaster to

keep it in place. The objection to adhesive plaster is that it is apt to set up a dermatitis. A good ointment for this purpose is

Zinc oxide	
Calamine .....ää	3 Gm.
Ointment of rose water to make.....	25 Gm.

Ten minims (0.6 cc.) of sulphonated bitumen, N. F. (ichthyol), added to this will give it a pinkish gray, inconspicuous color.

Medical Education, Registration and Hospital Service

COMING EXAMINATIONS

ALABAMA: Montgomery, July 10. Chm., Dr. S. W. Welch, 519 Dexter Ave., Montgomery.

AMERICAN BOARD FOR OPHTHALMIC EXAMINATIONS: Minneapolis, June 11. Sec., Dr. William H. Wilder, 122 S. Michigan Ave., Chicago.

AMERICAN BOARD OF OTOLARYNGOLOGY: Minneapolis, June 11. Sec., Dr. W. P. Wherry, 1500 Medical Arts Bldg., Omaha.

CALIFORNIA: San Francisco, July 9. Sec., Dr. Chas. B. Pinkham, 908 Forum Bldg., Sacramento.

COLORADO: Denver, July 3. Sec., Dr. Philip Work, 324 Metropolitan Bldg., Denver.

CONNECTICUT: Hartford, July 10-11. Sec., Reg. Bd., Dr. Robert L. Rowley, 79 Elm St., Hartford. Sec., Homeo. Bd., Dr. E. C. M. Hall, 82 Grand Ave., New Haven. State Bd. of Healing Arts, June 9, New Haven. Box 1895, Yale Station, New Haven.

DELAWARE: Wilmington, June 19-21. Sec., Dr. Henry W. Briggs, 1026 Jackson St., Wilmington.

DISTRICT OF COLUMBIA: Washington, July 10. Sec., Dr. E. C. Copeland, Suite 110, 1801 Eye St., Washington.

FLORIDA: Jacksonville, June 11-12. Sec., Dr. William M. Rowlett, 812 Citizens Bank Bldg., Tampa.

GEORGIA: Atlanta and Augusta, June 7-9. Sec., Dr. B. T. Wise, Americus, Georgia.

ILLINOIS: Chicago, June 26-29. Supt. of Regis., Mr. V. C. Michels, Springfield.

INDIANA: Indianapolis, June 19. Sec., Dr. E. M. Shanklin, 421 State House, Indianapolis.

IOWA: Iowa City, June 5-7. Dir., Mr. H. W. Grefe, Des Moines.

KANSAS: Kansas City, June 19. Sec., Dr. Albert S. Ross, Sabetha.

KENTUCKY: Louisville, June 12. Sec., Dr. A. T. McCormack, 532 W. Main St., Louisville.

LOUISIANA: New Orleans, June 14-16. Sec., Reg. Bd., Dr. Roy B. Harrison, 1507 Hibernia Bank Bldg., New Orleans.

MAINE: Augusta, July 2-3. Sec., Dr. Adam P. Leighton, Jr., 192 State St., Portland.

MARYLAND: Baltimore, June 19-22. Sec., Reg. Bd., Dr. Henry M. Fitzhugh, 1211 Cathedral St., Baltimore. Homeo. Bd., June 12. Sec., Dr. J. S. Garrison, 517 Old Orchard Rd., Ten Hills, Baltimore.

MASSACHUSETTS: Boston, July 10-12. Sec., Dr. Frank M. Vaughan, 144 State House, Boston.

MICHIGAN: Ann Arbor, June 12-14 and Detroit, June 18-20. Sec. Dr. Guy L. Connor, 707 Stroh Bldg., Detroit.

MINNESOTA: Minneapolis, June 19-21. Sec., Reg. Bd., Dr. A. E. Comstock, 524 Lowry Bldg., St. Paul. Sec., Basic Science Bd., Dr. E. T. Bell, Anatomy Bldg., University of Minnesota, Minneapolis.

MISSISSIPPI: Jackson, June 21-22. Sec., Dr. F. J. Underwood, Jackson.

MISSOURI: St. Louis, July 17-19. Sec., Dr. James Stewart, Capitol Bldg., Jefferson City.

NATIONAL BOARD OF MEDICAL EXAMINERS: Class A Medical Schools, June 13-15. Dir., 608-12 Fifteenth and Locust Sts., Philadelphia.

NEBRASKA: Omaha, June 21-23. Sec., Reg. Bd., Mr. Lincoln C. Frost, Lincoln.

NEW JERSEY: Trenton, June 19-20. Sec., Dr. Chas. B. Kelley, 30 W. State St., Trenton.

NEW YORK: New York City, Albany, Syracuse and Buffalo, June 25-28. Sec., Dr. Harold Rypins, Educational Bldg., Albany.

NORTH CAROLINA: Raleigh, June 18. Sec., Dr. John W. MacConnell, Davidson.

NORTH DAKOTA: Grand Forks, July 3. Sec., Dr. G. M. Williamson, Grand Forks.

OHIO: Columbus, June 6-8. Sec., Dr. H. M. Platter, State Savings Bank Bldg., Columbus.

OREGON: Portland, July 10-12. Sec., Dr. M. K. Hall, 816 Pittock Block, Portland.

RHODE ISLAND: Providence, July 5-6. Sec., Dr. B. U. Richards, State House, Provideence.

SOUTH CAROLINA: Columbia, June 26. Sec., Dr. A. Earle Boozer, 505 Saluda Ave., Columbia.

SOUTH DAKOTA: Lead, July 17. Sec., Dr. H. R. Kenaston, Bonesteel.

TENNESSEE: Memphis, Nashville, Knoxville, June 14-15. Sec., Dr. A. B. De Loach, Medical Arts Bldg., Memphis.

TEXAS: Austin, June 19-21. Sec., Dr. T. J. Crowe, 918-919 Mercantile Bank Bldg., Dallas.

VERMONT: Burlington, June 20-22. Sec., Dr. W. Scott Nay, Underhill.

VIRGINIA: Richmond, June 19-22. Sec., Dr. J. W. Preston, Box 444, Roanoke.

WASHINGTON: Seattle, July 16. Dir., Reg. Bd., Mr. Charles Maybury, Olympia. Basic Science Bd., July 12. Dir., Mr. Charles Maybury, Olympia.

WEST VIRGINIA: Martinsburg, July 10. Sec., Dr. W. T. Henshaw, Charleston.

WISCONSIN: Milwaukee, June 26-28. Sec., Reg. Bd., Dr. Robert E. Flynn, La Crosse. Sec., Basic Science Bd., Prof. M. F. Guyer, University of Wisconsin.

WYOMING: Cheyenne, June 9. Sec., Dr. W. H. Hassed, State Capitol Bldg., Cheyenne.

SCHOOLS OF CHIROPRACTIC AND OF NATUROPATHY IN THE UNITED STATES

Report of Inspections *

During 1927, personal inspections were made of schools existing in the United States for the teaching of peculiar methods of treating human diseases. While a complete report of all the information secured would hardly be justified, a brief summary of conditions found in schools of chiropractic and naturopathy may be of interest.

SCHOOLS OF CHIROPRACTIC

Chiropractic apparently originated in 1895 with D. D. Palmer, a magnetic healer of Davenport, Iowa; it was "developed" by his son B. J. It is in reality the older osteopathic concept slightly modified and renamed. The enlarging of the osteopathic field and the lengthening of the osteopathic curriculum gave chiropractic its opportunity; its rapid development has been due largely to the fact that it offered a short cut to osteopathy.

According to the chiropractic theory, disease is due to vertebral subluxations which cause a pinching of spinal nerves between bones. This pinching interferes with the flow of "Innate Intelligence" or vital energy to the body tissues. The spinal "Adjustment" alone renews that flow and restores health.

Chiropractic has had, during its brief career of thirty-two years, about a hundred and fifty schools. Forty of these are still active, many of them offering courses at night only and having a mere handful of students; more than half of the forty are so poorly housed and so inadequately financed that their future is problematic. B. J. Palmer, the "developer" of the cult, recently said: "According to our records, forty-eight chiropractic schools have closed their doors during the past two years."[1]

An entrance requirement of four years of high school study or its equivalent is claimed by the best of these forty schools; probably not one of them is enforcing the requirement. Mature age, business experience, ability to carry the chiropractic courses, or any convenient achievement is declared to be a satisfactory equivalent. A few schools give ridiculously short and easy high school quiz courses and certificates, for which a special tuition fee is charged; this course in one of the leading chiropractic schools[2] occupies two evenings weekly for six months. Fifty per cent or more of the chiropractic schools do not even claim to require a high school education.

The courses offered in the majority of these schools run through "three school-years of six months each." They are poorly chosen, poorly arranged, and poorly outlined. The student may begin on any school day of the year and finish on the same day of the eighteenth month thereafter. There are no adequate records of amount or quality of work done. Going to school is a matter of "doing time," and the student is given his doctor's degree as soon as the time limit expires. Legislation has forced a few schools to lengthen their courses to twenty-four or twenty seven months. When this is done, the school usually shortens its working day to three or four hours as compensation, and holds out to the student his ability to spend the remainder of his time earning his expenses. In almost any twenty-four or twenty-seven month school, a student may graduate at the end of eighteen months if he declares his intention to practice in a state requiring only that amount of study. A few schools require less than eighteen months, and one of the most widely known gives only a home-study course that may be finished in three months.

The equipment invariably found in these schools consists of a few adjusting tables, students' chairs, and desks. Some have turned to physical therapy or naturopathy and installed a varying amount of electrical apparatus. A few have

* Inspections were made during the summer and fall of 1927, by representatives of the Council on Medical Education and Hospitals of the American Medical Association. The schools included in these inspections are the schools of chiropody, chiropractic, naturopathy, optometry, osteopathy and physical therapy, as well as a large number of miscellaneous institutions.

1. Palmer, B. J.: The Great Undertow.
2. National College of Chiropractic, Chicago.

roentgen-ray machines, used (except in one instance[3]) in "spinography." About eight of the forty schools have small chemistry laboratories, with equipment for the simplest experiments only. Two or three have dissection laboratories. None of the forty schools have laboratories for physics, physiology, physiologic chemistry, bacteriology, histology, embryology or pathology. Courses in these important laboratory subjects are either given by the didactic method or omitted altogether.

The clinics are not adequate for training in the recognition of even the most common disease. There is no adequate apparatus for the diagnosis of such disease. The treatment procedures taught and practiced do not include the therapeutic measures of demonstrated value. The patient is left therefore practically without either diagnosis or treatment. There are no hospitals to which patients in need of hospitalization are referred, and none in which students may study the progress of cases.

The faculties of these forty schools are made up of men of poor educational qualifications. While a few are both educated and shrewd, and an occasional doctor of osteopathy or even of medicine may be found among them, the great majority are not trained in any of the "medical sciences," the nonmedical sciences or the liberal arts. They are frankly out of sympathy with the organized medical and public health interests, and are openly antagonistic to many of the most universally recognized facts and procedures of civilized life.[4] They circulate by word of mouth and through the school literature greatly misleading statements about the chiropractic "profession," ambiguous testimonials concerning the cure of incurables, and wild claims about the schools themselves which a most superficial investigation proves to be without foundation in fact.[5]

SCHOOL OF NATUROPATHY

While a venerable old age is claimed for naturopathy, its development has really been more recent than that of chiropractic; its chief exponent, Benedict Lust of New York, claims that he organized the "parent school" in 1896, but even so ancient an origin as that is improbable.

The cult seems to have no basic idea but to be rather a nature-cure hodgepodge with a decided antipathy to drugs. In fact, naturopathy has developed in part as an effort to broaden the scope of chiropractic. There are about five schools of naturopathy and all of them teach chiropractic. Several of the chiropractic schools teach naturopathy. Probably 50 or even 75 per cent of the practicing naturopaths have been recruited from the ranks of chiropractic, and the two cults have always been on the friendliest terms.[6]

Entrance requirements are said to include four years of high school study or its equivalent, but none of the schools of naturopathy really enforce this rule. Records are not kept; the student's word is taken in the matter, and if he is so thoughtless as to confess that he lacks the high school requirement, the matter is either forgotten or patched up with as little embarrassment as possible. One school offers a night course in which the deficiency may be made up (extra tuition being charged for this service), but admits that the requirement has never been enforced.

The courses run through twenty-four or thirty-six months, with a short school day and an evident carelessness regarding attendance. Only one school seems to have day-classes. These institutions show a marked tendency to have students attending two or more "schools" simultaneously. One school, for example, which claims to operate under about twenty different names, offers "a liberal reduction to students taking four or more courses (schools) at the same time." Another tried to enroll the inspector in two "schools" at once when 50 per cent of the sessions of one conflicted with the sessions of the other. One school counts attendance in each class twice—once for naturopathy and once for chiropractic—and so claims to pile up 6,000 class-hours (thirty-minute periods) of study, thus "qualifying" under the new Florida law; this school gives every student two diplomas, and many students three or more, each diploma bearing a different name for the school. No outline of the courses offered is published by any of the schools of naturopathy.

The subjects include sysmotherapy, glucokinesis, zone therapy, physicultopathy, astrological diagnosis, practical sphincterology, phrenological physiology, spectrochrome therapy, iridiagnosis, chiropractic, diet, hydrotherapy, osteopathy, physiotherapy, electrotherapy, mechanotherapy, heliotherapy, tension-therapy, naprapathy, neuropathy, physical culture, and many others.

The equipment in these schools differs little (if at all) from that found in schools of chiropractic, except that a small amount of electrical apparatus is usually found, and adjusting tables are not quite so much in evidence. A small chemistry laboratory is usual; that of the "parent school" in New York has room for two or possibly three students, but has not sufficient equipment for so large a number to perform the same experiments at the same time. There are no laboratories for physics, physiology, physiologic chemistry, anatomy, bacteriology, histology, embryology or pathology.

The clinics are even less adequate than those of the chiropractic schools. No school of naturopathy has a hospital associated. The therapeutic procedures include chiropractic, osteopathy, hydrotherapy, electrotherapy, diet, and a wide range of so-called natural methods.

The faculties of these schools are composed of untrained men, many of whom have been recruited from the schools of chiropractic. Their educational qualifications are so like those of teachers of chiropractic that no further statement is necessary. That such instructors should train students in the proper use of so wide a variety of therapeutic measures, and do it within the short time allotted, is obviously impossible.

COMMENT

To any one familiar with the elaborate equipment and curriculum found necessary to proper training in the science and art of healing today, the most impressive thing about these naturopathic and chiropractic schools is not what they are but what they are not.

1. Of the fifty active schools listed, a few are mere "branches" rather than separately existing institutions, and these fifty constitute less than one third of the number formerly exisiting.

2. All but a mere handful of these fifty existing schools are so poorly housed and so inadequately financed that their continuation is problematic.

3. Very few of these schools have even one adequately trained teacher on the faculty, and there are probably less than five expert all-time teachers in the entire lot of fifty institutions.

4. Not one of these schools actually enforces a matriculation requirement of even five minutes of high school study.

5. Not one of the fifty schools gives so much as one worthy laboratory course or has one worthily equipped laboratory.

6. Not one of these schools conducts a clinic in which a wide variety of the common diseases may be studied.

7. There is not one clinic equipped with the trained personnel or the scientific apparatus for the clinical diagnosis of a variety of the common diseases, or having a laboratory equipped for checking such clinical diagnoses.

8. There is not one clinic equipped for the proper treatment of patients suffering from such diseases.

9. There is not one of these schools whose students or whose faculty may enjoy the privilege of practice or even of observation in any worthy hospital.

3. The Pasadena College of Chiropractic reports that its students are taught roentgen-ray therapeutics.

4. For example, vaccination, typhoid immunization, specific medication, diphtheria antitoxin, quarantine, focal infection or the germ theory of disease.

5. Thirteen of these schools have made affidavits to the American College of Chiropractors that the curriculum includes 3,528 forty-five-minute hours of work, and on the basis of these affidavits have been rated by this "college" as "class A schools" and awarded "diplomas of honor." Allowing for ten-minute intervals between classes and five school days per week (considering that not a single holiday is allowed during the eighteen months of the course), this schedule would require more than eight hours of actual attendance daily, a program which no school of any nature would attempt to follow. The American College of Chiropractors admits that none of these schools were inspected prior to their being rated and that none of their claims have been investigated since.

6. The chiropractor may easily become a naturopath by taking a three-month "postgraduate" course in one of the naturopathic schools.

10. There is not one of these schools that does not proceed on the basis of unproved theory, ignoring the lack of endorsement by all worthy educational institutions.

11. There is not one of these schools that does not ignore or even avowedly oppose the scientific point of view and the facts of medical science accepted by the authorities of the entire civilized world.

12. There is not one of these schools that does not owe its existence to the fact that it offers a short cut to the practice of medicine.

SCHOOLS OF CHIROPRACTIC

CALIFORNIA
Berkeley
Berkeley Chiropractic College, 2168 Shattuck Avenue.
Los Angeles
Cale College of Chiropractic, 1406 West Seventh Street.
Los Angeles College of Chiropractic, 918-920 West Venice Boulevard.
Ratledge System of Chiropractic Colleges, 2415 South Western Avenue.
Oakland
West Coast Chiropractic College, Inc., Fourteenth Street and Seventh Avenue.
Pasadena
Pasadena College of Chiropractic, 1608 North Fair Oaks Avenue.
San Diego
Clewell Chiropractic College, 1574 Fourth Street.
San Francisco
San Francisco College of Chiropractic, 1067 Market Street.

COLORADO
Denver
Colorado Chiropractic University, Fourteenth Street and Cleveland Place.

DISTRICT OF COLUMBIA
Washington
Chiropractic Research University, 1349 L Street, N. W.

GEORGIA
Atlanta
Atlanta Chiropractic College, 286 West Peachtree Street.

ILLINOIS
Chicago
American University, 34 West Lake Street.
National College of Chiropractic, 20 North Ashland Boulevard.

INDIANA
Evansville
Evansville Chiropractic College, Inc., 501 Main Street.
Fort Wayne
Ross College of Chiropractic, Inc., 1311 Webster Street.
Indianapolis
Central States College of Chiropractic, 412-413 Kresge Building, 41 East Washington Street.
Lincoln Chiropractic College, Inc., 518 North Delaware Street.

IOWA
Davenport
Palmer School of Chiropractic, 800-1100 Brady Street.

KANSAS
Wichita
Colvin Chiropractic College, 237 South Main Street.

MARYLAND
Baltimore
Maryland College of Chiropractic, 520 North Charles Street.

MINNESOTA
Minneapolis
Minnesota Chiropractic College, Inc., 70 Willow Street.

MISSOURI
Kansas City
Chiropractic University, Tenth and Campbell Streets.
Cleveland Chiropractic College, 1417 Linwood Boulevard.
Western College of Chiropractic, 2021 Independence Avenue.
St. Louis
Missouri Chiropractic College, 706 North Grand Boulevard.

NEBRASKA
Lincoln
Nebraska Chiropractic College, Orpheum Building, 1134 P Street.

NEW YORK
New York
Carver Chiropractic Institute, 71 West Twenty-Third Street.
Columbia Institute of Chiropractic, 111 West Eighty-Third Street.
New York Eastern Institute of Chiropractic, 124 West Seventy-Fourth Street.
Standard School of Chiropractic, 44 Fifth Avenue.

OHIO
Akron
Akron College of Chiropractic, 985 East Market Street.
Cleveland
Bloodgett Chiropractic College, 565 Rose Building, 2062 East Ninth Street.
Metropolitan Chiropractic College, Inc., 4501 Prospect Avenue.

OKLAHOMA
Oklahoma City
Carver Chiropractic College, 521 West Ninth Street.

OREGON
Portland
Pacific Chiropractic College, Inc., 125 North Grand Avenue.

PENNSYLVANIA
Philadelphia
Doughty-Marsh College of Chiropractic, 4201 Walnut Street.
National Chiropractic College, 2324 Columbia Avenue.
Pittsburgh
Universial Chiropractic College, 1940 Fifth Avenue.

TEXAS
San Antonio
Texas Chiropractic College, 602-606 West Myrtle Street.

WASHINGTON
Seattle
Seattle College of Chiropractic, 401-404 Lowman Building, First Avenue and Cherry Street.

SCHOOLS OF NATUROPATHY[7]

CALIFORNIA
San Francisco
International School of Professional Arts and Sciences, 860 Geary Street.

FLORIDA
Miami
Blumer College of Naturopathy, First Avenue and Third Street.

MAINE
Portland
American School of Naturopathy, 28-31 Hammond Building, 12 Monument Square.

MINNESOTA
Minneapolis
Great Northern University, room 203, 2624 East Lake Street.

NEW JERSEY
Newark
First National University of Naturopathy, 143 Roseville Avenue.

NEW YORK
New York
American School of Naturopathy, 236 East Thirty-Fifth Street.

PENNSYLVANIA
Aetna
Naturopathic College, 27 Freeport Street.
Philadelphia
Franklin Research University (School of Naturopathy), 718 Spruce Street.
Naturopathic College and Hospital, 1333 North Broad Street.
Wilkes-Barre
Naturopathic College, 252 North Main Street.

SOME SCHOOLS OF CHIROPRACTIC AND OF NATUROPATHY

THE PALMER SCHOOL OF CHIROPRACTIC

(Inspected, May 23, 1927)

This institution, whose address is given as 800-1100 Brady Street, Davenport, Iowa, is the "fountain head" school and is still under the direct control of its founder, B. J. Palmer. It is the expression of "B. J.'s" life, both professionally and personally, and the personal expression is inseparably associated with the school's contribution to the "science" of chiropractic. This report will therefore reflect something of the spirit of "B. J."

Buildings.—There are four buildings all within one block, and therefore with a frontage much less than that indicated by the address given. No part of any building has a depth greater than half a block. Three of the buildings are two stories high, the administration building being four stories, but housing none of the classes of the school. One of the four buildings is "B. J.'s" residence; much of the space in the other three is used for such display as one would expect to find in a museum but not in a professional school. The buildings in order from 800 to 1100 are as follows: (*a*) B. J.'s residence; (*b*) the D. D. Palmer Memorial building, containing the "spinograph" department; (*c*) the administration building, housing the cafeteria, the printing plant, the offices of administration and the far-famed WOC radio station; in this building also is done a considerable amount of private work with the new Palmer instrument of diagnosis, the neurocalometer; (*d*) the class room building, in which practically all of the school work is conducted; this building contains also a large osteologic museum and a spacious sales room for the display of bones, tables, cushions, curios and other articles of merchandise offered by the Palmer School to students and visitors. All the buildings except the Palmer residence have elaborately decorated display windows equal to those of the down-town stores. The school is doing two things: (1) It is advertising chiropractic; and (2) it is making chiropractors.

The Garden.—Display is everywhere the evident intention. It begins just outside "B. J.'s" house, where signs pointing to his office read, "This way to see B. J." Behind his residence is a kind of Japanese garden without either poor Butterfly or her cherry blossoms. It is enclosed in glass and is entered by means of a cement door said to weigh half a ton. On this door is the inscription: "Want to see a little bit of heaven? St. Peter awaits you at the gate." St. Peter is the gardener who, under

7. Of the ten schools listed, three are branches only and two others were not active at the time of the inspection.

"B. J.'s" direction, made the garden; he collects one dime and lets the visitor through a turnstile which records one more visit. Opening another heavy door, in the middle of which is a diamond shaped area said to contain one thousand pieces of shiny stones, the visitor now enters the garden itself. Here he sees a waterfall, a pool of goldfish, a lemon tree, an orange tree, a palm tree, three grandly plumed tropical birds of the parrot family (alive and caged), a few stuffed snakes, and a statue of Venus—really a beautiful display and well worth the dime, but not worth the several thousand dollars expended in its creation and care.

"Spinography."—The arrangement of the display in the "spinography department" suggests a museum more than a school room. Hundreds of roentgen-ray photographs are mounted and illuminated. These include pictures of watches, purses, frogs, cats and other curiosities, along with scores of good plates showing pathologic processes in human bones. No students were in the room at the time of the inspection, but the roentgen-ray instructor was present, and after displaying the pictures he showed three roentgen-ray machines which he said were used along with two others in teaching. Every student is said to be taught how to operate the machines and read "spinographs." It is probable that machines are purchased by students through the school and that the school makes a profit on these sales.

Print Shop.—This is advertised in its own display window as "the prettiest printing plant in America," one of many ways in which "B. J." suggests Elbert Hubbard. The presses are said to use two carloads of paper every month. The school owns the presses and uses them only in the interests of chiropractic.

Cafeteria.—This is said to be capable of caring for 1,200 people in an hour. The capacity is probably greatly overestimated.

Radio Station.—WOC is the pride of the school. Two "studios" are maintained in order that time may not be lost in changing from one program to another. The rich draperies and velvety carpets deaden every noise. Overhead, in rustic setting, is an artistic and remarkably beautiful taxidermy display, the private property of "B. J." The radio apparatus is said to have been installed at an expense of $200,000. While at first an expense, it is now on a paying basis through the medium of its advertising programs.

Osteologic Museum.—Without doubt, this is the best collection of human spines in existence, and it contains many spines other than human, as well as several skulls and complete skeletons. One interesting specimen is the 25-foot vertebral column of a boa constrictor snake. This column contains 402 vertebrae, or twelve and one half for every one possessed by a man; the inspector hinted that a discussion of the comparative health of man and the snake would be interesting, but the champion of the subluxation theory did not take it up.

Epigrams.—The spirit of the institution and its founder will be better understood by the study of some of the epigrams found on the walls of its buildings. There are at least 500 of these and probably more nearly 1,000. As stated by "B. J." himself, "This distinctividuality portrays the pepsonality of B. J. Palmer." (The spelling is "B. J.'s" own.) As would be expected, most of these epigrams convey no message whatever, though always artistically and often ornately printed. Such a one is found on a post in front of the administration building: it is the one doggerel word "Spizzerinctum." Some of these epigrams attempt to modify the attitude of students or visitors: "If you are a mouthy, Mexican matador, acute or chronic, dismount, tie your long-horned durham outside, then enter." Some slap the medical profession: "Physicians' associations would go on a strike if they weren't afraid the people would soon learn to do without them." Again: "Be a 100 per cent American; keep your tonsils and your appendix." And again: "M. D. means More Dope—More Death." Some advertise articles offered for sale. In a kind of garden known as "Twilldo" is a real bar with a real barroom rail; over this bar is written: "Near-beer sold here; no beer sold near here." In the cafeteria is found: "Is wifey a bum cook? Eat here and keep her for a pet." Many of these epigrams extol advertising: "Only the mints can make money without advertising." "The world is your cow—but you must do the milking." "Early to bed and early to rise—Work like hell, and advertise—Makes a man healthy, wealthy, and wise."

Library.—The catalogue of the school makes the statement: "A splendid students' reference library is maintained in the classroom building." At 11 a. m. on a school day the inspector found this library padlocked. At his request it was opened. It contained a splendid display of swords, one of which was proudly pointed out and said to have belonged to the chief of a certain semibarbarous African tribe. A few magazines lay on a table, three of which were noted; they were the *Ladies' Home Journal*, the *Woman's Home Companion*, and *Detective Stories*. At one end of the room were three shelves of books, each shelf being about 40 feet long. The books consisted mainly of a number of old medical texts and a larger number of novels. (The reason for keeping the library locked was probably to protect the swords.)

Spirit of the School.—The spirit of students and instructors, so far as observed, was that of a trade school. An epigram on one wall reads: "The chief motive of a college education is to escape actual participation in just such work as gives joy to the worker." All the student groups were noisy except when listening in class. Between classes they sang "I Want to Call You My Sweetheart," passed jokes and played the part of high school or grade school children.

Size of the School.—The four classes were visited and the number in attendance estimated as closely as possible without becoming conspicuous. Estimates are as follows: freshmen, 35; sophomores, 56; juniors, 100; seniors, 125; total, 316. Enrolment was said to be between 400 and 500.

Subjects of Instruction.—In the freshman class, the lecture being given at the time of the inspection was on "The Innate Intelligence." This philosophical entity was presented as a thing "recognized by all men and needing no laboratory proof." In the sophomore class the lecturer was discussing the "Cause of Diseases." This cause, he said, was "interference with the transmission of mental impulses." The site of interference was at some intervertebral foramen. This Innate Intelligence could not force his mental impulses past a subluxation. The junior class was learning to correct these subluxations. About fifteen students lay on adjusting tables and posed as patients. Fifteen others stood beside them to play doctor. The instructor called: "Axis P. r. i.—one-two-three-four-five-six—all right, seven." As the numbers were called hands enfolded the recalcitrant vertebra and (at the call of "seven") shoved it with gentle rudeness out of the path of Innate Intelligence, and mental impulses surged again into the sick tissues. For the seniors the topic of the day was the neurocalometer. The lecturer had much to say about unilateral and bilateral hot boxes and their significance. By discovering these hot boxes this very delicate instrument of diagnosis tells which vertebrae are making dams across the path of Innate Intelligence.

The Neurocalometer.—The inspector asked to see one of these delicate heat registers and, in the act of showing it, the demonstrator thoughtlessly placed his hand on the poles of the instrument; instantly the needle shot to the left—as if he had a subluxation in his hand. The inspector then tested his own hand and found it so full of subluxations that a moment's contact between the poles of the neurocalometer and any two points on the hand instantly threw the needle entirely out of the field. Any two spots along any one's bare back might show a difference in temperature sufficient to affect so delicate a heat register, without regard to the way Innate Intelligence happened to be sending out his mental impulses.

Conclusion.—As a salesman, "B. J." is a success; as an educator, he does not even exist. Without even a high school education, he has "developed" the most popular therapy fad of today and built the largest institution of which those faddists can boast. With twelve associates, whose highest degrees are "D.C., Ph.C.," and one "medic" hired to save him from the clutches of the law, he keeps his trade school going and turns out two or three hundred aides to Innate Intelligence each year. The great shame is that a salesmanship which is 90 per cent bluff should convince any one that these tradesmen are educated healers of the sick.

NATIONAL COLLEGE OF CHIROPRACTIC

(Inspected, Feb. 25, 1927)

The inspection of this school was made by one whose primary purpose was not revealed. He was received, however, with the utmost kindness. He manifested an interest in the course of study, sat in one of the classes, visited the clinics, and was examined and treated as one of the patients. So far as he could determine, there was no effort to conceal anything from him or to make false impressions as to existing conditions. He found conditions as follows:

1. *Buildings.*—The school is located at 20 North Ashland Boulevard, Chicago, in a brick building with a frontage of one third of the block, formerly used for a theological school. While in a fair state of preservation, it is by no means fitted for its present use; ventilation and lighting are poor, and the arrangement for clinical and laboratory work is abominable. There are five floors and a basement. The upper three floors and most of the second are used as a dormitory for the students. The second floor contains two lecture rooms; the basement contains the chemistry laboratory and the dissecting room; with the exception of these four rooms, the school activities and all clinical work are confined to the first floor.

2. *Institutions.*—This one floor and the four other rooms accommodate several institutions of learning. These are: (1) The National College of Chiropractic, giving an eighteen months' course, tuition $600; (2) The National Academy, giving a six months' preparatory (high school) course, tuition $45; (3) The Hygieia College of Sanitary Science, giving a three months' course in personal and public hygiene, tuition $100; (4) The Lindlahr College of Natural Therapeutics, recently purchased, giving a three months' course in physiotherapy, tuition $100; (5) The National School of Obstetrics, giving a six months' course of lectures with privilege of observing a few deliveries (but not assisting) at the West End Hospital, tuition $150; and (6) a six months' Night School quiz course in preparation for the Illinois examination, tuition $200. There are also a three-month postgraduate course, tuition $150, with privilege of continuing indefinitely at $30 for each additional month; a two-week intensive review course offered twice a year, tuition $100; a six-month professional course, tuition $250; a roentgen-ray course; a dissection course; a first-aid course, and a variety of combinations of courses at fancy prices. All these courses, with anything else available, are thrown together into a *cum laude* course running through thirty-two months and "lumped off" to the student for the round sum of $1,000. These various colleges and courses, with all their associated clinics, are conducted on this one floor and in the four additional rooms mentioned.

3. *Finances.*—The building is owned by the school. There is no endowment, but expenses are paid out of the income from tuitions, laboratory fees, graduation fees, and fees from examinations and semiprivate clinic treatments.

4. *Faculty.*—The faculty is composed of eighteen "doctors." Of these, eight are doctors or philosophers of chiropractic only; one holds the degree or D.S.C. (meaning unknown); three have bachelors' degrees from some source not specified; two are osteopaths; four are doctors of medicine. Of these four doctors of medicine, two are graduates of schools now extinct, one of the schools having been rated in class B and the other in class C. The third man is a graduate of a class C school still operating but refused recognition by the medical boards of forty-six states; he has been repeatedly under arrest for practicing medicine without a license, and has doubtless been driven for protection to the shelter of this cult school. The fourth man, formerly dean of an obscure school of mechanotherapy and now president of this college of chiropractic, obtained his M.D. degree before the medical schools of America were classified; because of his practicing chiropractic without a license he was at one time named with several other illicit practitioners in an injunction procedure; whether he has since secured a license or not is unknown. So far as is known, only one of these four men ever secured admittance to any medical

society; this one was soon suspended. In brief, while these four men have been able to secure medical degrees from some source, not one of them has any standing in the organized medical profession of America.

5. *Students.*—This school claimed "approximately 350 students" in 1926. It now reports about 200, and this number doubtless includes post-graduates. These students lack enthusiasm. A large percentage of the school's recent graduates failed to pass the state board examinations. The students seen in laboratory, classroom and clinics move slowly, as if neither busy nor deeply interested; one of them, when asked, "How do you like it here?" replied, "Pretty well," but with an indifference that reflected doubt on even that mild statement.

6. *Lecture Rooms.*—There is one large room on the first floor equipped with about 125 opera seats. Each of the two second-floor lecture rooms will seat about fifty. There are about thirty seats in the roentgen-ray room. Two or three charts hang on the walls of each of these rooms. The lighting and ventilation are fairly good.

7. *Laboratories.*—A small chemical laboratory on the first floor is used by interns only (that is, for work on clinic patients by graduate students). In this laboratory were seen the usual paraphernalia, including a microscope and a four-tube centrifuge. In the basement, in a large but poorly lighted room, were desks capable of accommodating about fifty students in chemistry. This laboratory was clean and in good order, with a profusion of reagent bottles and a number of Bunsen burners arranged on the desks. The equipment seen, however, was all for elementary work. No microscopes, distillation flasks, Kjeldahl apparatus, kymographs, nor anything else indicating even the occasional doing of advanced work in chemistry or physiology was seen either here or anywhere else in the building, though there was an evident desire to impress the visitor favorably. In cases near the entrance to this laboratory were a number of jars containing well mounted and well preserved pathologic specimens.

8. *Dissection Room.*—This room, also in the basement, was small, poorly lighted and poorly ventilated. It contained six tables, each holding a cadaver or the remains of one, and covered with a white cloth. Permission was given to examine this material. All of it had been allowed to deteriorate quite markedly from dehydration. None of it presented any carefully dissected structures. The bodies had been skinned and an attempt made to work out a few muscles, but no blood vessels had been followed and no nerves traced. On one of the bodies the structures lying on both sides of the vertebral column had been worked on (a specific task at which a chiropractor should be proficient), but the quality of the work suggested that it might have been done with a currycomb. In all the six bodies, each of which had been worked on by four or five students, there was no evidence that any one of the workers had been able to appreciate and take advantage of his opportunities. For this course, six bodies are bought from an undertaker and used through a period of three months; these particular bodies had now probably been used for about eight or ten weeks; such use is a waste of good material.

9. *Roentgen-Ray Room.*—In this room was roentgen-ray equipment of the most modern type, such as any high-grade technician might be justly proud of. The visitor was told that "it cost thousands of dollars and was hard to get because the medical men had a corner on it, but the school was able to get it for the students."

10. *Clinics.*—(*a*) The great majority of patients go to the physiotherapy clinic. A dozen or more patients were seen in this clinic or waiting to be admitted. Most of them were women interested in the gynecology section; nearly all if not all the others were being treated by diathermy or by therapeutic light. The gynecology section was not visited. In the other sections were four diathermy machines, four ordinary therapeutic lamps, and one Alpine Sun Lamp. Of the last named, the visitor was told: "This is the violet ray, thirty times brighter than the sun. It brings eczema out of a hand like water out of a sponge." One booth contained a machine for doing mechanical massage. There were no bath rooms nor cabinets—not even a booth for giving the much discussed "blood washing" marathon bath; indeed, there was no other equipment except a few chiropractic adjustment tables. (*b*) The chiropractic clinics—one for men and one for women—are hard to find without a guide. Each contained between fifteen and twenty modern adjustment tables, while in the men's clinic was one osteopath's table. Although it was in the clinic period that these clinics were visited, not one of these thirty or forty tables was occupied. Two men gave evidence that they had just been adjusted (they were readjusting their wearing apparel), but in the women's room there was not even a "doctor" to be seen. These are the public clinic rooms; there is one other room, divided into small booths, each of which contains a table for "semiprivate" adjustments; less than half a dozen of these booths were occupied.

11. *Library.*—When it was intimated that the tour of inspection was finished, the visitor requested that he be shown the library. The school catalogue contains a picture of this room, with the subscription, "The only one of its kind in the country, this library contains over 1,000 volumes." But his request elicited the astounding reply: "There ain't no library." Half doubting this statement, he inquired of a graduate student later, and was told that the library was in the private office of one of the faculty members; no willingness to show it was manifested, and the visitor considered it unwise to insist.

12. *Matriculation Requirements.*—The visitor was now conducted into the business office. Here he was told that high school graduation or its equivalent was required of all students, but that one who had had no high school work whatever could easily gain the equivalent certificate by attending a quiz course two evenings weekly during the first six months of his chiropractic study and then passing an examination. "It isn't hard," said the registrar. "Nobody fails, and you don't need to worry about that at all."

13. *Course.*—The course is eighteen months long, and is so arranged that one may begin any day. "No matter what day you begin," said the registrar, "you will come round to that same point again at the end of eighteen months."

14. *Results.*—To help determine the efficiency of the product of this system, the visitor now became a patient. After registration, he was taken into a small, poorly lighted booth, where his history was taken by a student. This history consisted of his name, address, age, sex, marital state, occupation, and nationality; cause of death of parents; his previous illnesses and operations; his present complaint and a four-line story of how it came about. No other questions were asked and no other facts recorded. The patient had a cold and a cough that no observing physician could overlook; he made a definite effort to get these into the record without mentioning them directly, but in vain. The patient was now taken, with the history, into the examining room. Here a member of the faculty read the history, took and recorded the blood pressure and pulse rate, listened to the heart sounds and to the breath sounds just below the clavicles, and ran his hand up and down the patient's nude back. He also tried the knee and elbow reflexes and did a Romberg test. Diathermy was then prescribed, and a graduate was called to take charge of the patient. As the graduate led the patient into the booth containing the needed electrical apparatus, he called another graduate to him and, pointing to the machine, asked, "How do you work this thing?"

Conclusions.—The conclusions are self-evident. 1. This school receives students who have no educational foundation. 2. It gives a course of training (*a*) under instructors not qualified to teach, (*b*) with equipment hopelessly inadequate, (*c*) with an all too meager supply of clinical material, and (*d*) reaching over a period entirely too short to qualify the most brilliant mind or the most skilful hand for the work of a physician. 3. It charges an exorbitant price for the service it claims to render. 4. Its graduates are not and cannot be healers of the sick, though they are taught to pose as such and so become a menace to the public health. 5. Such an institution is a disgrace, and it can best serve the public interest by quietly going out of existence.

LOS ANGELES COLLEGE OF CHIROPRACTIC

(Inspected, Oct. 5, 1927)

This school is located at 918 West Venice Boulevard (West Sixteenth Street). It began in December, 1924, with the amalgamation of three schools: the Golden State College of Chiropractic, the Eclectic College of Chiropractic, and a small, struggling Los Angeles chiropractic college conducted for years by Charles A. Cale but seemingly taken over by his wife, Linnie A. Cale, at the time of their separation; Linnie A. Cale is now dean of the Los Angeles College of Chiropractic, and Charles A. is running a school bearing his own name.

Building.—The school owns a three-story building, all of which it occupies. Space is ample, but the arrangement is poor. The roentgen-ray department is given the most conspicuous place, on the first floor. Dr. C. H. Wood, the president, has his private offices in the front rooms of the second floor; all of his equipment, however, is used by the school. The assembly hall is on the third floor.

Equipment.—This is the best equipped chiropractic school that the inspector has seen. There were said to be forty new adjusting tables, and several of these were seen. There were said to be twenty therapeutic lights, some of which were shown. The school claims five diathermy machines, four of which were of the large Fischer type. Four Morse wave generators were mentioned. There were patients in almost every booth, and to insist on seeing this apparatus would have been embarrassing. However, it is the policy of the president to sell all old apparatus about every two years and purchase new. He probably acts as advertising agent for the manufacturers and purchases at a very low cost. The statement is made that about $11,000 worth of new equipment has been purchased within the past ten months, and the statement may not be grossly exaggerated. A new $85 adjusting table was given as a premium to every new student enrolling this summer; this was done as a "substitute for a cut in tuition," but such a measure, together with the rapid change of its physical therapy apparatus, makes the school an agency for the sale of equipment—an objectionable feature in spite of the fact that it provides better equipment for the use of the students. There were said to be eight microscopes. The chemistry laboratory was small and meagerly equipped. The school offers a "course" in "urinalysis."

Faculty.—There are eight teachers, one of whom (the dean) is an osteopath; the others claim only chiropractic education.

Students.—The present enrolment is said to be 225. One hundred of these are in the night class. The graduates last year numbered ninety. The year before there were 115.

Requirements.—The state law demands of chiropractors petitioning for examination a high school diploma or its equivalent. The state's field agent, to whom the inspector talked, asserts that Dr. Winters, who grants the qualifying certificates, is a graduate of the Los Angeles College of Chiropractic. It was learned in San Francisco that the students in the Berkeley Chiropractic College send applications not to San Francisco but to Los Angeles, because it is much easier to get qualifying certificates from Los Angeles.

Course.—The time required for the day course is eighteen months and for the evening course is thirty-six months. The schedule includes 3,600 hours—probably forty-five minute periods. Of this time, 200 hours are said to be given to dissection, and 100 each to roentgen-ray and minor surgery. Obstetrics and pediatrics are also taught, but all courses are included under the name of chiropractic, this being an all-inclusive name in California. The tuition is $750 cash or $850 in time payments; this price includes at present an $85 adjusting table as a premium

AMERICAN SCHOOL OF NATUROPATHY, INC.
AMERICAN SCHOOL OF CHIROPRACTIC, INC.

(Inspected, Nov. 7, 1927)

This school, known by the two names given above, is the famous (?) institution founded by Benedict Lust, N.D., D.O., D.C., M.D., and is now a night school only. It is located in an old apartment house at 236 East Thirty-Fifth Street, New York, where it makes use of two floors and a portion of the third. It has two small lecture rooms, each containing about a dozen chairs, a very small demonstration room containing a McMannis osteopathic table, a small clinic room into which five chiropractic adjusting tables have been crowded, and a little chemical laboratory with one table (offering room for two or three students) and two old cupboards; in one cupboard are kept all the reagent bottles, and in the other is all the glassware; both cupboards are padlocked. There were two burets and two Bunsen burners on the table in this laboratory. Quite a number of chiropractic adjusting tables were said to be stored—evidence of the balmier days that once were known.

There were said to be twenty students at present. Fifteen were graduated last year. The school does not publish a catalogue; it is too expensive. A four-year course is offered, covering nine months of the year, the classes being in session from 7 to 10:30 p. m. The field covered is said to be: "chiropractic, diet, hydrotherapy, osteopathy, physiotherapy, electrotherapy, mechanotherapy, heliotherapy, etc." There are said to be five men on the faculty; no degrees are mentioned, though each man on the list is called "Dr." Lust himself claims an M.D. degree.

New classes are said to be formed in October and February, but students may enroll at any time. The tuition is $250 annually. Textbooks and other supplies are offered to students at discounts; Lust has a book store at his business and publishing office, 124 East Forty-First Street..

Benedict Lust is the great national organizer of naturopathy. He is now in Florida and the inspector did not meet him personally, but his school is a very sorry looking affair. Aside from the giving of chiropractic adjustments the instruction must be almost altogether didactic. The dean, whose name is Gershanek, is deaf, nervous and thick-headed; none of the other faculty members were met.

The dean stated that 40 or 50 per cent of the chiropractors of the United States had quit practice within the last two or three years. While the statement is doubtless an exaggeration, it indicates an important truth. He further states that there are now about three thousand chiropractors actually practicing in this country—another inaccuracy, but a statement worth balancing against that of the secretary of the American College of Chiropractors (Waldorf-Astoria, New York), that there are twenty thousand. Dean Gershanek published a naturopathic and chiropractic directory in 1926 (the first edition). He expects to publish a second edition in 1929.

NATUROPATHIC COLLEGE AND HOSPITAL

(Inspected, Nov. 21, 1927)

The "college" portion of this institution is located at 1333 North Broad Street, Philadelphia; the hospital exists only in the land of dreams, the school authorities expressing the hope that it may become a fact next year. The school building is an old apartment; whether more than the first floor is used or not was not learned, but two offices and a combination clinic and class room are found on the first floor and are probably all the school needs. The chief aim of the president's conversation with the inspector seemed to be to conceal the truth. This is also the aim of the eight-page 1927 announcement or "bulletin," which presumably gives a picture of the hospital with a complete list of its staff. The 1927 commencement program carries out the same idea by announcing the appointment of six of the graduates as "assistant physicians to the Naturopathic Hospital." With such consistent and intentional deceit it is hard to ascertain facts.

The faculty is said to be "much changed" since the publication of the list in the 1927 bulletin, to take care of the "enlargement of the program," there now being "about twenty," many of them M.D.'s! Since there *were* twenty-four, with four places left unfilled, the "enlargement" idea is clear only when compared to the dream of a hospital. The president stated that there are "about ninety students all told," but another faculty member confessed: "We have only ten freshmen; we limit the class to fifteen." This would indicate a school of less than half of the president's "ninety all told." One class of six or eight was seen in session.

The course is said to run through three years of eight months each. A class schedule, a hundred or more copies of which were found lying in the hallway, schedules classes for two days weekly (Tuesday afternoon, 12 to 4:50, and Thursday morning, 9:30 to 1:20), and three evenings weekly (Tuesday, Thursday and Friday, 7:30 to 10:20) with clinics on four afternoons and two evenings (2 to 4 Monday, Wednesday, Thursday and Friday, and 7 to 9 Monday and Wednesday). But this is probably an old schedule, perhaps printed for the October class and then abandoned. The 1927 announcement states positively: "The instruction is given during the evenings, Monday to Friday inclusive," and if there is any day school at all it is certain that the night school is separate from and independent of it. With "only ten freshmen," a day school is highly improbable. There were sixteen graduates last year.

A high school education or "equivalent" is said to be demanded of matriculates. The equivalent, it is said, "depends on the dean." "An earnest man can get things that others can't." When told by the inspector that he had one year of high school, the president replied to him, "Oh, well, we could get you through all right." The tuition fee is $200 annually.

The school is supposed to have two branches, one at Etna, Pa., under the direction of Robert W. Berger, which is known to be nothing more than his private office at 27 Freeport Street, and another at 252 North Main Street, Wilkes-Barre, Pa., under the direction of Maurice Williams, who probably has no more school than Berger.

FIRST NATIONAL UNIVERSITY OF NATUROPATHY

(Inspected, Nov. 14, 1927)

This institution is located at 143 Roseville Avenue, Newark, N. J It occupies a two-story dwelling house, which is also the office of the president, founder and dean, F. W. Collins, M.D., A.M., and his assistant, John Parsons Field, D.C., Ph.C., N.D., D.O., D.Ph., M.D. The building is further honored as the home of Collins and Hill Realty Company, and is either the home office or a branch of the "standard Products Corp.—No acids or alkalis—eZe—softens water instantly—cleans anything and everything."

The First National University of Naturopathy is supposedly the result of a merging of the Mecca College of Chiropractic, the New Jersey College of Osteopathy, and the United States School of Naturopathy, a year or more ago. The fact seems to be that these three are creations of F. W. Collins, who also chartered the United States School of Physiotherapy, the American Academy of Medicine and Surgery, and about fifteen other similar paper colleges. The last named grants medical degrees; Field's M.D. and probably Collins' too are from this source. The twenty or more institutions are all crowded into the one building, and there are now said to be twenty-six students. Last year there were ten or twelve graduates, all probably receiving chiropractic and naturopathic degrees.

Theoretically, the course reaches over four years of nine months each, and is said to include more than 3,560 thirty-minute hours (Field did not know that the "standard" was 3,528 *forty-five*-minute hours, and boasted of being *above* the standard set by the American College of Chiropractors). Field also stated that by counting the hours twice—once for chiropractic and once for naturopathic study (since the student was in two schools at once)—the course exceeded the 6,000-hour requirement of the new Florida Naturopathic law.

The school has no electrical apparatus because it is too expensive, yet it gives (nominally) both naturopathic and physiotherapeutic courses and grants degrees of "Doctor" in both lines. There are five tables in the chiropractic clinic. There are thirty chairs, a blackboard, and a piano in the one class room of which the twenty institutions can boast. Aside from the equipment of the business office and a few old charts, this constitutes all of the university's worldly goods.

There are five said to be on the faculty, though the thin catalogue, which is nobody knows how old, names twenty-one, with an additional list of thirteen special lecturers. The work may be taken between 9 a. m. and 12:30 p. m., or between 7 p. m. and 10 p. m. If one desires to shorten the time, he can do so by enrolling in *both* the day and the night schools; it is all a matter of doing time; a student may begin any time, because the classes are said to "go in a circle" and "come around to the starting point."

Two or three diplomas are given each graduate, from as many different "schools." The tuition is $600. In short, for this price a student may get all the diplomas the walls of one small office will offer space for, and he may have them with no great effort on his part, with no preliminary education insisted on, and with the school frankly cooperating in the faking of everything that can be conveniently faked in this preparation to fool the public.

Connecticut March Examination

Dr. Robert L. Rowley, secretary of the Connecticut Medical Examining Board, reports the written examination held at Hartford, March 13-14, 1928. The examination covered 7 subjects and included 70 questions. An average of 75 per cent was required to pass. Of the 17 candidates examined, 15 passed and 2 failed. Seven candidates were licensed by endorsement of their credentials. The following colleges were represented:

PASSED College	Year Grad.	Per Cent
Yale University School of Medicine	(1927)	78.4, 79.3
Howard University School of Medicine	(1926)	75
Harvard University Medical School	(1926)	80.9, 88.8
Tufts College Medical School	(1926) 77.9; (1927) 75, 79.4,	80.1, 82.1
Columbia University College of Physicians and Surgs.	(1927)	77.3
University of Cincinnati College of Medicine	(1928)*	†
University of Pennsylvania School of Medicine	(1926)	86.5
University of Vermont College of Medicine	(1927)	81.3
Dalhousie University Faculty of Medicine	(1926)	84.1

FAILED College	Year Grad.	Per Cent
Boston University School of Medicine	(1927)	71
University of Toronto Faculty of Medicine	(1926)	71.1

LICENSED BY ENDORSEMENT College	Year Grad.	Endorsement with
College of Medical Evangelists	(1918)	California
Johns Hopkins University Medical School	(1912)	New York
Bellevue Hospital Medical College	(1893)	Maine
Columbia University Coll. of Phys. and Surgs.	(1905), (1919)	New York
Long Island College Hospital	(1913)	New York
University and Bellevue Hospital Medical College	(1917)	New York
McGill University Faculty of Medicine	(1924)	New Hamp.

* This candidate will receive his M.D. degree on the completion of one year's internship in a hospital.

† Grade not given.

Alabama January Examination

Dr. S. W. Welch, chairman of the Alabama State Board of Medical Examiners, reports the written examination held at Montgomery, Jan. 10-13, 1928. The examination covered 10 subjects and included 100 questions. An average of 75 per cent was required to pass. Eight candidates were examined, all of whom passed. Two physicians were licensed by reciprocity. The following colleges were represented:

PASSED			
College		Year Grad.	Per Cent
Howard University School of Medicine	(1923) 92;	(1927)	75
Rush Medical College		(1927)	90,* 92
University of Louisville School of Medicine		(1927)	86
Johns Hopkins University School of Medicine		(1926)	88
University of Maryland School of Medicine and the College of Physicians and Surgeons		(1927)	88
Dalhousie University Faculty of Medicine		(1927)	88

LICENSED BY RECIPROCITY		
College	Year Grad.	Reciprocity with
College of Physicians and Surgeons, Boston	(1899)	Georgia
University of Tennessee College of Medicine	(1926)	Tennessee

* This candidate will receive his M.D. degree on the completion of one year's internship in a hospital.

South Dakota January Examination

Dr. H. R. Kenaston, director of the South Dakota State Board of Health, reports the oral, written and practical examination held at Pierre, Jan. 17-18, 1928. The examination covered 15 subjects and included 105 questions. An average of 75 per cent was required to pass. Four candidates were examined, all of whom passed. Six physicians were licensed by reciprocity and 1 physician was licensed by endorsement of his credentials. The following colleges were represented:

PASSED		
College	Year Grad.	Number Passed
State University of Iowa College of Medicine	(1926)	1
Minneapolis College of Physicians and Surgeons	(1900)	1
Creighton University School of Medicine	(1926)	1
University of Nebraska College of Medicine	(1927)	1

LICENSED BY RECIPROCITY		
College	Year Grad.	Reciprocity with
Rush Medical College	(1914)	Minnesota
University of Minnesota Med School	(1921), (1922), (1927)	Minnesota
Marquette University School of Medicine	(1925), (1927)	Wisconsin

LICENSED BY ENDORSEMENT		
College	Year Grad.	Endorsement with
Washington University School of Medicine	(1925)	N. B. M. Ex.

Wisconsin January Examination

Dr. Robert E. Flynn, secretary of the Wisconsin Board of Medical Examiners, reports the written and practical examination held at Madison, Jan. 10-12, 1928. The examination covered 18 subjects and included 100 questions. An average of 75 per cent was required to pass. Of the 5 candidates examined, 4 passed and 1 failed. Nineteen physicians were licensed by reciprocity and 1 physician was licensed by endorsement of his credentials. The following colleges were represented:

PASSED		
College	Year Grad.	Per Cent
Yale University School of Medicine	(1924)	93
Johns Hopkins University School of Medicine	(1926)	*
University of Pennsylvania School of Medicine	(1926)	89
Queens University Faculty of Medicine	(1926)	91

FAILED		
College	Year Grad.	Per Cent
University of Vienna, Austria	(1910)†	70

LICENSED BY RECIPROCITY		
College	Year Grad.	Reciprocity with
George Washington University Medical School	(1925)	Dist. Colum.
Loyola University School of Medicine	(1926)	Illinois
Northwestern University Medical School	(1920)	Illinois
Rush Medical College	(1927)	Illinois
University of Illinois College of Med.	(1927)	Illinois, 3, Utah, 1
Indiana University School of Medicine	(1923), (1926)	Indiana
State University of Iowa College of Medicine	(1921)	Iowa
Johns Hopkins University School of Medicine	(1923)	Maryland
Harvard University Medical School	(1919)	New York
University of Michigan Med. School	(1916), (1925), (1926)	Michigan
St. Louis University School of Medicine	(1920)	Missouri
University of Oregon Medical School	(1916)	California
Woman's Medical College of Pennsylvania	(1912)	New York

LICENSED BY ENDORSEMENT		
College	Year Grad.	Endorsement with
Northwestern University Medical School	(1927)	U. S. Navy

* No grade given.
† Verification of graduation in process.

Book Notices

DIAGNOSIS AND TREATMENT IN DISEASES OF THE LUNGS. By Frank E. Tylecote, M.D., D.P.H., F.R.C.P., Honorary Physician to the Manchester Royal Infirmary, and George Fletcher, M.A., M.D., M.R.C.P., Assistant Tuberculosis Officer, Lancashire County Council. Cloth. Price, $2.25. Pp. 270. New York: Oxford University Press, 1927.

This is an excellent book. The style is clear, the arrangement of facts is good, and it contains a great deal of information which the general practitioner will find interesting and instructive. The concise construction of the contents make it a desirable office library addition for the busy practitioner. For senior students it is excellent and should be included among the library books in medical schools. There are few textbooks on diseases of the lungs which are short, concise, clear and therefore practical for both practitioner and student.

HANDBUCH DER NORMALEN UND PATHOLOGISCHEN PHYSIOLOGIE MIT BERÜCKSICHTIGUNG DER EXPERIMENTELLEN PHARMAKOLOGIE. Herausgegeben von A. Bethe, G. v. Bergmann, G. Embden, und A. Ellinger. Band VII, 2 Hälfte. Blutzirkulation.—2 Teil. Blutgefässe. Kreislauf. Von E. Atzler, L. Brauer und anderen. Paper. Price, 88 marks. Pp. 865-1923. Berlin: Julius Springer, 1927.

This completes the volume on the circulation of the blood, the first half of which was reviewed some time ago (THE JOURNAL, Dec. 17, 1927, p. 2137). The entire volume of 1,923 pages has to be purchased complete (price about $40). The present book contains the index for the two parts of the volume. The two books are to be strongly recommended to every serious practitioner of internal medicine who is interested particularly in the physiology and physiologic pathology of the circulation. Brought to completion by eighteen contributors, it contains sections on the form and properties of the peripheral blood vessels; law of hydrostatics and hydrodynamics; distribution of cross-section and resistance in the circulatory system; blood vessels, reflexes and vasomotor nerves; reaction of the blood vessels to direct stimulation; the pharmacology of the blood vessels and of the circulation; the active propagation of the blood stream through the vessels; arteriosclerosis; varices and aneurysms; disposition of the vessels in death; pulse and minute volume; circulation time; arterial and capillary pulse; the normal blood pressure; the pathology of the arterial blood pressure; the influence of hydrostatic pressure on the movement of the blood and adaptation of the vessels; the function of the valves of the veins (comprising a discussion of the relation of the valves to the production of the varices); blood circulation of various organs; local disturbances of the circulation; the theoretical basis of treatment by hyperemia; comparative pathologic physiology of the organs of circulation; function of the pericardium; surgery of the heart. It is obviously impossible to review in detail a book of this size in a short paragraph. Suffice it to say that it conforms in every way to the high standards set by the editors and the publishers of the other volumes of this series which have appeared.

HANDBOOK ON DIET. By Eugene F. Marcovici, M.D., Instructor, Post-Graduate Hospital. Cloth. Price, $3.50 net. Pp. 323. Philadelphia: F. A. Davis Company, 1928.

In this handbook the dietetic task in the kitchen, the utilization of food in the body and the various types of food are first considered. There is a chapter on contamination of foods. Various types of diets in health and in disease are then considered, following which are chapters on special diets, recipes, food tables and mineral waters and bath resorts, especially in the United States. The general principles on which this work is based are sane and sound, though there is little regarding vitamins. In connection with the discussion of diabetic diets nothing is said of the importance of the dextrose-fatty acid ratio. In discussing ulcers of the stomach and duodenum, the author does not mention Sippy diets. The food tables are adequate and the chapters on mineral waters and bath resorts are of value. This handbook, intended for physicians, dietitians or the layman, is apparently based largely on the practice in the clinic of Prof. Carl von Noorden of Vienna and contains little reference to work done in this country.

THE COMMON DISEASES OF THE SKIN. A Handbook for Students and Medical Practitioners. By R. Cranston Low, M.D., F.R.C.P., Lecturer on Diseases of the Skin, University of Edinburgh. Cloth. Price, 14/-net. Pp. 223, with 68 illustrations. Edinburgh: Oliver & Boyd, 1927.

This is a concise summary of the common skin diseases. Only a few of the rarer skin disorders have been included, such as leprosy, pemphigus, and mycosis fungoides, which are dangerous to life and of which, therefore, every medical man should have some knowledge. The book, while not a "compend," is brief. The author has stated what he considers facts and intentionally has avoided quoting authorities, in appreciation of the short time at the disposal of the medical student. Many teachers of dermatology believe that the average medical student does not have sufficient time allotted to this subject to enable him easily to handle a textbook of a thousand or more pages. For this reason, and principally because of the simple and concise manner in which the material is presented, this book can well be recommended to the medical student. A special section is not devoted to syphilis, the student being referred to treatises on venereal diseases for this information. Syphilis is discussed, of course, in the differential diagnosis of many diseases throughout the text. The author, after describing the anatomy and physiology of the skin and the general pathology, bacteriology, diagnosis and principles of treatment, divides the common skin disorders into diseases due to animal parasites, infections due to pyogenic organisms, fungus infections, urticaria and allied conditions, the erythemas and allied conditions, vesicular and bullous eruptions, seborrhea and allied conditions, alopecia areata, dermatitis and allied conditions, scaly eruptions, tuberculosis and allied conditions, nevi, benign epithelial neoplasms, malignant epithelial neoplasms, benign connective tissue neoplasms, and malignant connective tissue neoplasms. There is also one section devoted to disorders which could not well be included in this classification, which consists of lichen planus, ichthyosis, leukoderma, scleroderma, cheiropompholyx, hyperhidrosis, hypertrichosis, hydroa vacciniforme and lupus erythematosus. Many of the illustrations are reproductions of moulages and, as usual, these are the least desirable. There are forty-nine full-page plates, eight of which are in color. This should be a practical and serviceable book to the medical student and general practitioner, for whom it was intended, and there is little doubt that many teachers of dermatology would glean helpful information from its perusal.

THE ART OF ANÆSTHESIA. By Paluel J. Flagg, M.D., Anæsthetist to St. Vincent's Hospital, Fifth Avenue, and Flower Hospitals, New York City. Fourth edition. Cloth. Price, $5. Pp. 384, with 135 illustrations. Philadelphia: J. B. Lippincott Company, 1928.

This edition, like its predecessors, is intended primarily as a textbook or groundwork on which the student and intern may acquire a knowledge of the art of general and local anesthesia. The specialist in anesthesia will appreciate the organized, clear, concise form of presentation. The author's stand against the lay anesthetist should be endorsed by the medical profession and practiced by all surgeons. Flagg believes, and his opinion is well supported by authoritative men, that "the art of anesthesia implies an intimate knowledge of general medicine, pathology, surgery, therapeutics, physiology and special branches. Those who are not familiar with these subjects cannot understand the language of anesthesia. A layman who administers an anesthetic is like a blind guide who is led by the patient, instead of leading him." Chapter II is of especial value to the anesthetist of limited experience, as practical difficulties are named and met. The bearing of the position of the anesthetized patient on free or obstructed breathing, the danger of volvulus of the ileum and large intestine and of cardiac dilatation because of the increased strain thrown on the right heart when the Trendelenburg position is employed are freely discussed. This chapter also graphically illustrates the varied positions of the patient and table for operations. Many anesthetists of wide experience will not subscribe to the views expressed regarding the open method of etherization. It is evident that the author has witnessed this method improperly employed. The statement that ethylene is not safe for operative obstetrics is contrary to the experience of many competent observers. It is regretted that no method of grounding to prevent ethylene-oxygen explosions due to electrostatic sparks is given. Chapter XXI, on the point of view of the patient, is well worthy of consideration in this day of high pressure and hospital routine carried to extreme. "In adopting the patient's point of view we eliminate much pain and distress. A moment of thoughtfulness is all that is required. A word, a smile or a sympathetic glance will do much to lighten anxiety and pain" before operation. The book is well printed and the illustrations are numerous and excellent.

HANDBUCH DER NORMALEN UND PATHOLOGISCHEN PHYSIOLOGIE MIT BERÜCKSICHTIGUNG DER EXPERIMENTELLEN PHARMAKOLOGIE. Herausgegeben von A. Bethe, G. v. Bergmann, G. Embden, und A. Ellinger. Band III. B./II. Verdauung und Verdauungsapparat. Von B. P. Babkin, G. v. Bergmann, etc., etc. Paper. Price, 120 marks. Pp. 1489, with 292 illustrations. Berlin: Julius Springer, 1927.

Thirty-six authors collaborated in the publication of this marvelous volume of the "Handbuch" of physiology. The first hundred pages are devoted to a discussion of the comparative physiology of the digestive apparatus (protozoa, metazoa and ending with an account of carnivorous plants). Following an adequate presentation of the elementary foodstuffs, the mechanics of gastro-intestinal motility in health and disease are thoroughly discussed. This section ends with a chapter on the pharmacology of gastric and intestinal motility. A hundred and thirty pages are next devoted to the physiologic anatomy of the digestive glands; and the mechanisms of secretion of the latter are then thoroughly treated. The physical, chemical and biologic properties of these secretions under normal and abnormal conditions are next discussed. A considerable section is devoted to the biologic significance of the bacterial flora in the digestive tract. Then follows a 250 page discussion on the pathology of the digestive processes. Approximately a hundred pages are devoted to the physiology and pathology of nutritive and digestive processes in infancy; and the volume ends with a section on pharmacologic agents that affect the digestive glands. As a working tool for the experimental physiologist, gastro-enterologist and pediatrician this volume is a most welcome and satisfactory critical compilation of the available knowledge on this phase of physiology.

THE WORLD OF ATOMS. Ten Non-Mathematical Lectures. By Arthur Haas, Ph.D., Professor of Physics in the University of Vienna. Translated by Horace S. Uhler, Ph.D., Associate Professor of Physics, Yale University. Cloth. Price, $3 net. Pp. 139, with 31 illustrations. New York: D. Van Nostrand Company, Inc., 1928.

In this volume are ten lectures, somewhat technical, on the present conception of the atoms. The material requires at least college education in physics for comprehension. To the physician who is interested in the subject and who has this requirement it will be useful.

REPORT ON CANCER OF THE RECTUM. An Analysis of the Literature with Special Reference to the Results of Operation. Reports on Public Health and Medical Subjects No. 46: Ministry of Health, London. Published by His Majesty's Stationery Office. Pp. 70. Paper. 1927. Price, 1s. 6d net.

Seven of these reports were in press when this one was published, making fifty in all. Three have been on cancer of the breast, one on cancer of the uterus, and one on the natural duration of cancer. This is the sixth devoted to malignant tumors, all the work of a committee of notable British surgeons, physicians and pathologists with Sir George Newman, K.C.B., M.D., F.R.C.P., as chairman. In the other reports the records of 80,000 cancers of the uterus and 25,000 of the breast were reviewed; in this one, records of between 5,000 and 6,000 cancers of the rectum are dealt with. All the records are in medical literature; Italian and Russian literature apparently were not included except through abstracts. Among the more important topics considered are the types of radical operation, and the operability, operative mortality and frequency of the common symptoms. Slightly less than half of 5,231 cancers of the rectum were operable when first examined by surgeons. An average of twelve months elapsed between the occurrence of the first symptom and operation. Two out of every five patients undergoing radical operations were alive at the end of three years. About one sixth of

all patients who had radical operations died from the operations or from causes connected with them. Pain is an early symptom, contrary to a view widely prevalent that cancer is a painless disease. Only one other symptom was found earlier with greater frequency, and that was irregularity of the bowels. And the pain was not that experienced at stool but pain in the rectum at other times, or pain in the back or abdomen. The operative mortality was 16.5 per cent, sepsis being responsible for nearly half the deaths. The deaths from operation were slightly less in women than in men. There are many tables and a few graphs. About the only mention of postmortem examinations is of those collected by Pennington (THE JOURNAL, Dec. 7, 1918, p. 1892), 997 bodies with regional lymph nodes involved, inaccessible as a rule, with the Kraske or perineal operations. This report will undoubtedly be of great value to surgeons from the large amount of statistical information it contains. It has another and important usefulness for those engaged in educating the laity to secure medical help early whenever there are symptoms pointing to cancer.

HANDBUCH DER MIKROSKOPISCHEN ANATOMIE DER MENSCHEN. Herausgegeben von Wilhelm v. Möllendorff. Band III. Haut und Sinnesorgane. Teil 1. Haut, Milchdrüse, Geruchsorgan, Geschmacksorgan, Gehörorgan. Von H. von Eggeling, H. Hoepke, und W. Kolmer. Paper. Price, 90 marks. Pp. 505, with 321 illustrations. Berlin: Julius Springer, 1927.

Like those of the previous volumes, the present monographs on the skin, the mammary gland, and the organs of smell, taste and hearing contain much new material as well as complete reviews of the literature to the present. The illustrations are practically all new to textbooks and many are original; abundant as they are there are no gaudy, superficial figures which serve only for display. Hoepke's section on the skin and its derivatives (116 pages) is presented from a physiologic point of view and includes the recent literature on capillary circulation. Cutaneous nerve endings and sense organs are not included. Von Eggeling presents the literature on the development of the mammary gland from the fetal period to senile involution. Its relations to the reproductive cycles are only hinted at, and nothing new is added to the problems of milk formation. It comprises thirty-six pages. Kolmer's chapters on the sense organs are masterpieces. All phases, histologic, physiologic, neurologic, developmental, are considered and new light is thrown on a host of problems by a master who can evaluate the work of others through his own wide experience. Thirty-seven pages are devoted to the gustatory apparatus, fifty-seven to the olfactory, and 228 to the external, middle and internal ear. The last is written for the expert in the field, who will fully appreciate the beautiful photomicrographs. It is surprising that so great a cytologist should accept the silver impregnations of fixation coagula as reliable evidence of intracellular nerve endings, but this is a small detail.

DIE CHIRURGIE: Eine zusammenfassende Darstellung der allgemeinen und der speziellen Chirurgie. Herausgegeben von Prof. Dr. M. Kirschner und Prof. Dr. O. Nordmann. Lieferung 15. VI. Band. 2. Teil. Die Chirurgie der Milz. Die Chirurgie der sog. Blutkrankheiten. Von Dr. A. Weinert. Paper. Price, 13 marks. Pp. 1039-1277, with 88 illustrations. Berlin: Urban & Schwarzenberg, 1927.

This section deals with the surgery of the spleen and "so-called diseases of the blood." Dr. Weinert develops his subject in conformity with the plans of previous authors. The work is thorough and inclusive and well illustrated. The chapter on blood transfusion contains descriptions of various methods of performing the transfusion, as well as the technic for determining blood grouping. The author is evidently not as enthusiastic about the results of blood transfusions as many American authors seem to be. It is of interest to note that the simple syringe technic, such as Lindeman's, is not mentioned.

CHILDBIRTH. An Outline of Its Essential Features and the Art of Its Management. By William George Lee, A.B., M.D. Cloth. Price, $3. Pp. 300, with illustrations. Chicago: University of Chicago Press, 1928.

Dr. Lee was a man of considerable experience in his specialty, and a teacher of the subject to students for many years. He was also a physician with a philosophical cast of mind. Therefore, his book on childbirth is one that will offer to the medical student information of importance, and to the intelligent layman a readable account of what constitutes proper obstetric care. On the other hand, the book is not one for a person of high school intelligence, but rather for one of at least college education. One of the most important chapters is the final one, which recognizes forceps, anesthesia and asepsis as the three greatest advances in the field of obstetrics. It points particularly to the need for hospital care and the importance of building hospitals for middle class care rather than as monuments of a commemorative nature or as architectural triumphs.

RECENT ADVANCES IN TROPICAL MEDICINE. By Sir Leonard Rogers, C.I.E., M.D., B.S., Physician and Lecturer, London School of Tropical Medicine. Cloth. Price, $3.50. Pp. 398, with 12 illustrations. Philadelphia: P. Blakiston's Sons & Company, 1928.

Frequently, in the study of tropical medicine, whether the study is followed in books or in the classroom, the physician cannot see the patient because of the parasitology. One can retort that were it not for the parasitology and the triumphs it has brought about, there would be small use in the physician's seeing the patient at all. The little volume by Sir Leonard Rogers is an excellent summary of what is known concerning kala-azar, dermal leishmaniasis, malaria, blackwater fever, trypanosomiasis, relapsing fever, yellow fever, dengue, phlebotomus fever, plague, cholera, bacillary dysentery, flagellate diarrhea, amebiasis, amebic hepatitis, sprue, ancylostomiasis, schistosomiasis, filariasis, leprosy, yaws, beriberi and pellagra. Several chapters open with excellent historical sketches. These are followed by sections on distribution and epidemiology, diagnosis, clinical features, complications, treatment and prophylaxis. As the author says in his preface, "especial prominence has been given to treatment and to other points of most practical importance to the isolated medical man in the tropics, rather than to the minute pathology and laboratory technic." Morever, he has brought the material down to date. The task was a large one; it has been admirably done.

DIE CHIRURGIE: Eine zusammenfassende Darstellung der allgemeinen und der speziellen Chirurgie. Herausgegeben von Prof. Dr. M. Kirschner und Prof. Dr. O. Nordmann. Lieferung 20. Band IV. Teil 2. Die Chirurgie der Lungenerkrankungen. Von Prof. Dr. W. Jehn. Die Chirurgie des Brustkorbes. Von Prof. Dr. A. Schubert. Paper. Price, 19 marks. Pp. 549-738, with 129 illustrations. Berlin: Urban & Schwarzenberg, 1927.

This section deals with surgery of the lungs and surgery of the thorax, by Drs. W. Jehn and A. Schubert, respectively. Jehn was one of the co-authors of Sauerbruch's monumental work on thoracic surgery. Many of the beautiful color plates that appeared in Sauerbruch's work are reproduced here. The subject matter is well handled and fully covered.

DIE CHIRURGIE: Eine zusammenfassende Darstellung der allgemeinen und der speziellen Chirurgie. Herausgegeben von Prof. Dr. M. Kirschner und Prof. Dr. O. Nordmann. Lieferung 19. Band II. Die Vorbehandlung, der Verband und die Nachbehandlung bei chirurgischen Eingriffen. Von Prof. Dr. O. Nordmann, Die plastischen Operationen der Haut. Von Dr. K. Tiesenhausen. Paper. Price, 14 marks. Pp. 393-602, with 208 illustrations. Berlin: Urban & Schwarzenberg, 1927.

This section is divided into two parts. The first, by Prof. O. Nordmann, deals with the preparation and after-care of surgical patients and with bandaging. The second, by Dr. K. Tiesenhausen, takes up the subject of plastic operations on the skin. Both authors deal with their subjects in the careful, thorough manner characteristic of the other sections.

MORAL MÉDICA. Por L. Razetti, presidente de la sociedad médica de Caracas. Paper. Pp. 259. Caracas, 1928.

Dr. Razetti, who is permanent secretary of the National Academy of Medicine of Venezuela, has written this long treatise on medical ethics for the physicians of the Latin American countries of Central and South America. He is definite about the undesirability of commercializing the practice of medicine. He is also specific about his understanding of such practices and emphatic in his warnings of dangers they entail. The first attempt to organize the medical profession of Latin America was in 1902. The code of medical ethics for Venezuela adopted in 1918 is naturally the central

theme. Similar codes were adopted subsequently in Peru and Colombia. These codes are of interest in that they reflect the efforts of three important South American countries in raising the standards of their profession to approach those of other large medical centers of the world.

Books Received

Books received are acknowledged in this column, and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for more extensive review in the interests of our readers and as space permits. Books listed in this department are not available for lending. Any information concerning them will be supplied on request.

ASSOCIATION FOR RESEARCH IN NERVOUS & MENTAL DISEASE. A Series of Research Publications. Volume V. Schizophrenia (Dementia Praecox). Edited by Charles L. Dana, Thomas K. Davis, Smith Ely Jelliffe, Henry Alsop Riley, Frederick Tilney, and Walter Timme. Cloth. Price, $7.50 net. Pp. 491, with 61 illustrations. New York: Paul B. Hoeber, 1928.

Report of the annual meeting with stimulating and enlightening discussions.

HANDBUCH DER INNEREN SEKRETION. Eine umfassende Darstellung der Anatomie, Physiologie und Pathologie der endokrinen Drüsen. Lieferung 4. Band III. Herausgegeben von Dr. Max Hirsch. Paper. Price, 36 marks. Pp. 839-1284, with illustrations. Leipsic: Curt Kabitzsch, 1928.

Third volume of system of endocrinology. including also discussion of the vegetative nervous system and relationships of glands to psychiatry.

DIE KLINISCHE HÄMATOLOGIE DES KINDESALTERS. Von Heinrich Baar, Assistent des St. Annaspitals in Wien, und Eugen Stransky, gew. Assistent der Reichsanstalt für Mutter- und Säuglingsfürsorge in Wien. Paper. Price, 32 marks. Pp. 506, with 20 illustrations. Leipsic: Franz Deuticke, 1928.

Studies of changes in the blood in children illustrated in colors.

ENZYKLOPAEDIE DER KLINISCHEN MEDIZIN. Herausgegeben von L. Langstein, C. von Noorden, C. Pirquet, und A. Schittenhelm. Spezieller Teil. Avitaminosen und verwandte Krankheitszustände. Herausgegeben von W. Stepp, und P. György. Paper. Price, 66 marks. Pp. 817, with 194 illustrations. Berlin: Julius Springer, 1927.

Systematic presentation of the results of vitamin deficiency.

DIE ANGIOARCHITEKTONIK DER GROSSHIRNRINDE. Von Dr. Phil. et Med. Richard Arwed Pfeifer, Planmässiger ausserordentlicher Professor der Hirnforschung an der Universität Leipzig. Paper. Price, 26 marks. Pp. 157, with 132 illustrations. Berlin: Julius Springer, 1928.

Concerning the blood vessels of the cortex of the brain.

PHARMACOTHERAPEUTICS, MATERIA MEDICA AND DRUG ACTION. By Solomon Solis-Cohen, M.D., and Thomas Stotesbury Githens, M.D. Cloth. Price, $15. Pp. 2009. New York: D. Appleton & Company, 1928.

Extensive tome replete with information regarding what drugs are and what they do.

EL BOCIO Y EL CRETINISMO. Estudio sobre la epidemiologia española y la patogenia de esta enfermedad. Por Gregorio Marañón. Paper. Pp. 189, with 26 illustrations. Madrid: Editorial Paez, 1927.

Goiter and cretinism in Spain considered epidemiologically.

COMMENT CONSULTER? Par Léon Schekter. Second edition. Paper. Price, 15 francs. Pp. 172. Paris: Gaston Doin & Cie, 1928.

Questions and answers in medicine.

THE FORTY-THIRD ANNUAL MEDICAL REPORT OF THE TRUDEAU SANATORIUM AND THE TWENTY-THIRD MEDICAL SUPPLEMENT FOR THE YEAR ENDING SEPTEMBER 30, 1927, TOGETHER WITH THE TENTH COLLECTION OF THE STUDIES OF THE EDWARD L. TRUDEAU FOUNDATION FOR RESEARCH AND TEACHING IN TUBERCULOSIS. Paper. Saranac Lake, N. Y.: Edward L. Trudeau Foundation, 1927.

A TEXT-BOOK OF INFECTIOUS DISEASES. By E. W. Goodall, O.B.E., M.D., B.S., Vice-President of the Section of Epidemiology and State Medicine of the Royal Society of Medicine. Third edition (of Goodall and Washbourn's Manual of Infectious Diseases). Cloth. Price, $10. Pp. 718, with illustrations. New York: William Wood & Company, 1928.

SELECTED PAPERS ON INJURIES AND DISEASES OF BONE. By Sir William Ireland de C. Wheeler, B.A., M.D., F.R.C.S.I., Surgeon to Mercer's Hospital, and the National Children's Hospital, Dublin. Cloth. Price, $4. Pp. 148, with 100 illustrations. New York: William Wood & Company, 1928.

Miscellany

HISTORICAL NOTES ON THE BEGINNING OF LOCAL ANESTHESIA*

CARL KOLLER, M.D.
NEW YORK

It is now almost forty-four years since I published my first paper on the use of cocaine as an anesthetic, and as I have been asked innumerable times since then about the circumstances which led me to adopt cocaine for purposes of local anesthesia, I think I may assume that this bit of history is of general interest.

In medical history as well as in general history, actual facts have a tendency to become blurred and confused with the passage of time, and for this reason an authentic account is in order or may be desirable.

INITIAL EXPERIMENTS

Up to 1884 the only method of local anesthesia known and not very frequently practiced was the Richardson ether spray, which acted by freezing, and which was used for operations on subcutaneous abscesses and for similar operations of short duration. At that time I was an intern and house surgeon on the staff of the Allgemeine Krankenhaus in Vienna. I had done research work on the origin of the mesoderm in the embryo, and had conducted that work in the laboratory for experimental pathology, of which Salomon Stricker was the head.

Through my connection with the laboratory I took part in many experiments on the action of poisons on the respiration, circulation and glandular secretion. I was therefore familiar with the methods of animal experimentation. The immediate cause for my approaching the question of local anesthesia was the unsuitability of general narcosis for eye operations; for not only is the cooperation of the patient greatly desirable in these operations, but the sequelae of general narcosis—vomiting, retching and general restlessness—are frequently such as to constitute grave danger to the operated eye; and this was especially the case at the time when narcosis was not as skilfully administered as it is now by trained experts. Eye operations were formerly being done without any anesthetic whatever.

Pursuing my plan for finding a local anesthetic suited to the eye, I began a series of experiments, using chloral, bromide, morphine and other substances; but as I did not achieve any success, I gave up these experiments for the time being. Although these experiments had been unsuccessful, they had the good effect that my mind was prepared to grasp the opportunity, whenever I should encounter a real local anesthetic.

ENCOUNTERING COCAINE

The opportunity presented itself in the following way: A prominent young physiologist, a man of unusually brilliant and attractive personality, had through a painful disease—neuromas in the stump of an amputated thumb—become the victim of the morphine habit, and was being treated by my friends Dr. Sigmund Freud, who later achieved fame as the author of psychoanalysis, and Dr. Joseph Breuer, a practicing physician of scientific mind and training, well known among other things for his work on the semicircular canals in conjunction with the physiologist Hering. Drs. Freud and Breuer tried to break the morphine habit by substituting cocaine for it, a proceeding which I believe had been recom-

* Read before the joint meeting of the Associated Anesthetists of the United States and Canada, and the International Anesthesia Research Society, on dedication to the author of a scroll of recognition, Washington, D. C., May 16, 1927.

mended in the American medical literature of the day. The available supply of cocaine in the world at that time was only a few grams, and was furnished to them by Merck of Darmstadt.

Sometime in the summer of 1884, Freud, who had become interested in the physiologic systemic effects of cocaine, asked me to undertake with him a series of experiments in that direction. We took the alkaloid by mouth, and after a lapse of time sufficient for it to get into the circulation we conducted experiments on our muscular strength, degree of fatigue (measured by the dynamometer) and the like.

When taken by mouth cocaine causes the tongue to become numb, a fact which had been known since 1860, after Dr. Albert Niemann, assistant of the great chemist Woehler, had in 1858 isolated the powerful alkaloid from coca leaves and named it cocaine. These leaves had been brought home from Peru by Dr. Scherzer, when he accompanied the Austrian frigate *Novara* on its scientific expedition round the globe. The fact that cocaine benumbed the tongue had been mentioned in many physiologic and toxicological papers on cocaine, and in some of them the possibility of this characteristic being put to practical use had been mentioned; but most likely on account of the overshadowing and wonderful effects on the central nervous system this factor had been lost sight of. Just as the fact that sulphuric ether produced sleep and insensibility to pain had been known long before Long and Morton demonstrated successfully that this state could be utilized for the painless performance of operations, so the fact that cocaine locally applied paralyzed the terminations and probably the fibers of the sensory nerves had been known for twenty-five years before it came to the attention of some one interested and desirous of producing local anesthesia for the performance of operations.

EXPERIMENTS WITH COCAINE

It is not correct, as was said at the time, that I discovered this important fact by accident, a drop of the solution coming by chance into my eye. If such had been the case, I would not have known that the eye was bereft of sensibility. When in the course of preparing for these physiologic experiments, I realized that I had in my possession the local anesthetic which I had been previously searching for, I went at once to Stricker's laboratory, made a solution of cocaine and instilled a drop in the eye of a frog, and afterward of a guinea-pig. I found the cornea and cojunctiva anesthetic—that is, insensitive to mechanical, chemical, thermic and faradic stimulation. Afterward I repeated these experiments on myself, some colleagues and many patients.

I made the first preliminary communication relative to this subject, Sept. 15, 1884, at the meeting of the German Ophthalmologic Society of Heidelberg. Dr. Brettauer of Trieste read a short paper for me, and showed the experiments. Later, on October 17, I read a more elaborate paper before the Gesellschaft der Aerzte of Vienna. It was published in the *Wiener medizinische Wochenschrift* of Oct. 25, 1884, and was translated in the *London Lancet* of December 6, and in the *New York Medical Record*.

FURTHER DEVELOPMENTS

When making the eye the field of my experiments, I was of course aware from the first of the applicability of local anesthesia in other branches of medicine and surgery, for I had started from the fact that the drug made the tongue and the lips numb. Consequently, I suggested to my colleague Jellinek, who was assistant in the laryngologic clinic of Schroetter, that he experiment with cocaine anesthesia on the nose and the larynx. He did so, and reported his experiments before the Gesellschaft der Aerzte of Vienna. The first to make use of cocaine by hypodermic injection was the surgeon Prof. Anton Woelfler, first assistant to Billroth. Within a few years the technic of hypodermic injection was developed further into infiltration anesthesia, nerve trunk blocking, and intraspinal injections.

I limited my experiments to the eye because, wishing to devote myself to ophthalmology, I aspired to one of the much coveted positions of assistant to one of the large eye clinics, and wanted to establish a claim by making a contribution to ophthalmology. Knowledge of the new remedy spread quickly, and one who looks over the medical and lay press of the time, daily and periodical, will encounter a perfect flood of communications on cocaine and local anesthesia.

It is a curious fact that while many substitutes have been tried by a whole army of investigators, cocaine, in spite of its disadvantages—the occasional poisonous effects and the habit forming quality—after almost half a century of use has not been supplanted as the most efficient local anesthetic. Organic chemistry has succeeded in laying bare the molecular constitution, as well as identifying the part of the molecule to which the anesthetizing effect is due, and in producing cocaine and its derivatives in a synthetic way. The time may be near when we can look forward to the synthetic development of an ideal local anesthetic, without any objectionable qualities or by-effects.

30 East Fifty-Eighth Street.

BOGUS DIPLOMAS: PERSISTENT MISSTATEMENTS FIFTY-ONE YEARS AGO

An editorial was published in the *Pacific Medical and Surgical Journal* of April, 1877, on the subject of fraudulent diplomas issued by the Philadelphia University of Medicine and Surgery, a low-grade institution which became extinct in 1880. Since it is not uncommon nowadays to read like comments on medical diploma mills and their bogus diplomas, it is interesting to note this editorial dealing with a similar situation existing fifty-one years ago:

"It is now, we think, about twenty years since the sale of diplomas was commenced by the 'Philadelphia University,' a fraudulent concern having an existence mainly on paper. Agents in Europe advertised and sold their degrees. The subject was seized on by many British and continental writers and placed to the discredit of American colleges and physicians, with an eagerness not altogether indicative of friendly regard for the profession on this side of the Atlantic. Especially was advantage taken of the name of the bogus institution to identify it and the scandalous proceeding with the parent of American schools, the University of Pennsylvania. No time was lost in correcting the error and repudiating the slander, not only in regard to the University of Pennsylvania, but also as to every legitimate medical college in the United States. But the prejudice or hostility entertained in Great Britain and in parts of Europe against the medical institutions of this country has kept alive the disgraceful imputation and dulled the public ear against receiving the correction. And still, though the correction and denial have been repeated again and again—have been iterated and reiterated—the old story of selling diplomas by American medical schools crops out from time to time in the same old dress in British and European publications. Such persistent misrepresentation may be regarded, under all these circumstances, not only as unfraternal and unprofessional, but rude, vulgar and insulting."

Accumulation of Poisonous Material in the Blood Causes Fatigue.—The blood is the medium through which nutritive material is carried to the tissues, and through which also the chemical products of tissue destruction are carried off. These chemical wastes are poisonous impurities, created by the vital activities of the organism, and it is precisely to their accumulation in the blood that fatigue is largely due—Goldmark: Fatigue and Efficiency, p. 12.

Medicolegal

Distinction in Insanity and Testamentary Incapacity

(In re Brown's Will (N. C.), 140 S. E. R. 193)

The Supreme Court of North Carolina, in affirming a judgment for the caveators opposing the probate of a writing propounded for probate as a will, says that the question as to whether the man who executed the writing was sane or insane on the date that he executed it was not necessarily involved in or determinative of the issue submitted to the jury. The question was whether or not he had testamentary capacity. It is not required that a caveator shall prove that the deceased was insane in order to establish a want of testamentary capacity. The trend of judicial opinion on this subject shows clearly that a distinction should be and is made between insanity and want of testamentary capacity. A man may be lacking in testamentary capacity, as defined by the law, and yet not insane, certainly within the ordinary meaning of that term. The law requires that he shall be sound in mind and of disposing memory in order to have capacity to make a will disposing of his property at his death.

Insurance Against Disability in Occupation

(Fidelity & Casualty Co. v. Bynum (Ky.), 298 S. W. R. 1080)

The Court of Appeals of Kentucky, in affirming a judgment in favor of the plaintiff on a policy of insurance which insured him against disability to perform each and every duty pertaining to his occupation as a retail groceryman, says that a man who was past middle life and had followed one business all his life and knew nothing of any other business might very reasonably take out insurance, insuring him in a fixed sum in case he became disabled to follow the only business he knew anything about. If the company wished to have credit by anything that he might make in some other business, although he was disabled to follow his stated occupation, it should have so provided in the policy. The court cannot add conditions to the policy the writing does not contain. A man with a family dependent on him might reasonably desire insurance against the loss that would come to him if he became totally disabled to follow his business, for he would be uncertain what he could make in any other business, and he would thus secure a certain support. Among the cases that have been decided are those of a physician or a farmer. Certainly the application of the rule would be conceded in the case of a professional man who had practiced his profession over twenty years and knew no other business. The reasons for the rule apply equally to any other occupation.

Traumatic Internal Injury from External Force

(Straight Creek Fuel Co. v. Hunt et al. (Ky.), 298 S. W. R. 686)

The Court of Appeals of Kentucky, in affirming a judgment which affirmed an award of the industrial board for the death of a miner, says that he fell diagonally across a steel rail. A rib was fractured and the lower part of his stomach and bowels were bruised. Twelve days afterward he died. For the employer it was argued that there was no evidence showing that death was the result of a traumatic injury; that the fractured rib was the only traumatic injury received, and that as the evidence showed that his death resulted either from locked or paralyzed bowels, and there being no trauma resulting in death, the industrial board should have dismissed the application of his widow and infant children for compensation under the workmen's compensation act. But this court is of the opinion that an internal injury resulting from an external force is a traumatic injury, and if such an internal injury results in death the compensation board has jurisdiction.

It appeared in evidence that some seventeen months before the fall the man was shot twice with a pistol, once in the arm and once in the abdomen, and there was some effort to show that he was addicted to the excessive use of liquor. However, the physician who treated him for the gunshot wounds stated that he had fully recovered from those injuries, except for a certain stiffness in the arm. None of the physicians would say definitely on the hearing that his death was certainly caused by the fall, but they all said it could have been so caused if the fall across the rail was hard enough. They each said, in substance, that the excessive use of whisky and the former pistol wound in the abdomen might have been contributing causes. There was, however, no evidence of the excessive use of intoxicants, and little evidence of their use at all; but there was ample evidence that he had fully recovered from the former gunshot wound by the showing that for some months before the last injury he had worked almost constantly in the mine and had in fact during that period done some extra work. On this showing, even in the absence of an express opinion by the medical men as to the cause of his death, the board found that immediately prior to the last accident he was a well and able-bodied man, and that, as the evidence showed he had received a very hard fall across the steel rail on his abdomen and had grown worse from day to day until his death twelve days thereafter, it felt justified in holding that such fall was the proximate cause of his death; and this court has no difficulty in finding that there was evidence before the board justifying this finding.

Society Proceedings

COMING MEETINGS

American Medical Association, Minneapolis, June 11-15. Dr. Olin West, 535 North Dearborn Street, Chicago, Secretary.

American Association for the Study of Allergy, Minneapolis, June 11-12. Dr. A. H. Rowe, 242 Moss Avenue, Oakland, Calif., Secretary.

American Association for the Study of Goiter, Denver, June 18-20. Dr. K. W. Kinard, Bryant Building, Kansas City, Mo., Secretary.

American Association for the Study of the Feebleminded, Atlantic City, May 31-June 2. Dr. H. W. Potter, Thiells, New York, Secretary.

American Association of Industrial Physicians and Surgeons, Rochester-Minneapolis, June 11-12. Dr. V. S. Cheney, 5446 S. Halsted Street, Chicago, Acting Secretary.

American Federation of Organizations for the Hard of Hearing, St. Louis, June 18-22. Miss Betty C. Wright, 1601, 35th Street, N. W., Washington, D. C., Secretary.

American Heart Association, Minneapolis, June 12. Dr. Haven Emerson, 370 Seventh Avenue, New York, Secretary.

American Physiotherapy Association, Minneapolis, June 11-12. Miss I. M. Hazenhyer, 2900 Mildred Avenue, Chicago, Secretary.

American Proctologic Society, Rochester-Minneapolis, June 9-12. Dr. W. A. Fansler, 531 LaSalle Building, Minneapolis, Secretary.

American Psychiatric Association, Minneapolis, June 4-8. Dr. Earl D. Bond, 4401 Market Street, Philadelphia, Secretary.

American Psychopathological Association, Minneapolis, June 8. Dr. M. W. Peck, 520 Commonwealth Avenue, Boston, Secretary.

American Radium Society, Minneapolis, June 8-9. Dr. G. Grier, Jenkins Arcade Building, Pittsburgh, Secretary.

American Society of Clinical Pathologists, Minneapolis, June 8-11. Dr. W. T. Burdick, Republic Building, Denver, Secretary.

American Therapeutic Society, Minneapolis, June 9-11. Dr. W. J. Mallory, 1720 Connecticut Avenue, N. W., Washington, D. C., Secretary.

American Urological Association, Chicago, June 7-9. Dr. Alexander Randall, Medical Arts Building, Philadelphia, Secretary.

Associated Anesthetists of the United States and Canada, Minneapolis, June 11-12. Dr. F. H. McMechan, Avon Lake, Ohio, Secretary.

Association for the Study of Internal Secretions, Minneapolis, June 12. Dr. F. M. Pottenger, Title Insurance Building, Los Angeles, Secretary.

Association of American Teachers of the Diseases of Children, Minneapolis, June 12. Dr. Paul W. Emerson, 86 Bay State Road, Boston, Secretary.

Boston Trudeau Society, Boston, June 4. Dr. Randall Clifford, 475 Commonwealth Avenue, Boston, Secretary.

Conference of State and Provincial Health Authorities, St. Paul, June 8-9. Dr. A. J. Chesley, State Department of Health, St. Paul, Secretary.

International Anesthesia Research Society, Minneapolis, June 11-12. Dr. F. H. McMechan, Avon Lake, Ohio, Secretary.

Maine Medical Association, Belgrade Lakes, June 18-20. Dr. B. L. Bryant, 265 Hammond Street, Bangor, Secretary.

Massachusetts Medical Society, Worcester, June 5-6. Dr. Walter L. Burrage, 182 Walnut Street, Brookline, Secretary.

Medical Women's National Association, Minneapolis, June 11-12. Dr. Helen L. Palliser, 251 Church Street, Poughkeepsie, N. Y., Secretary.

Minnesota State Medical Association, Minneapolis, June 18. Dr. E. A. Meyerding, 11 West Summit Avenue, St. Paul, Secretary.

National Tuberculosis Association, Portland, Ore., June 18-20. Dr. C. J. Hatfield, Henry Phipps Institute, Philadelphia, Secretary.

New Jersey, Medical Society of, Atlantic City, June 6-9. Dr. J. B. Morrison, 66 Milford Avenue, Newark, Secretary.

Pacific Northwest Medical Association, Tacoma, Washington, July 5-7. Dr. Frederick Epplen, 511 Olive Street, Seattle, Secretary.

Rhode Island Medical Society, Providence, June 7. Dr. J. W. Leech, 369 Broad Street, Providence, Secretary.

Current Medical Literature

AMERICAN

The Association library lends periodicals to Fellows of the Association and to individual subscribers to THE JOURNAL in continental United States and Canada for a period of three days. Issues of periodicals are kept on file for a period of five years only. Requests for issues of earlier date cannot be filled. Requests should be accompanied by stamps to cover postage (6 cents if one and 12 cents if two periodicals are requested). Periodicals published by the American Medical Association are not available for lending, but may be supplied on purchase order. Reprints as a rule are the property of authors and can be obtained for permanent possession only from them.

Titles marked with an asterisk (*) are abstracted below.

American J. Anatomy, Philadelphia

41: 1-151 (March 15) 1928

Placental Permeability of White Rat, as Determined by Its Reaction to Hemolysins. C. M. Boucek, Pittsburgh.—p. 1.
Clavicular Epiphyses. T. W. Todd and J. D'Errico, Jr., Cleveland.—p. 25.
Relation of Mitochondria and Other Cytoplasmic Constituents to Formation of Secretion Granules. W. C. Ma, Chicago.—p. 51.
Functional Interrelation of Ovaries as Indicated by Distribution of Fetuses in Mouse Uteri. C. H. Danforth and S. B. de Aberle, San Francisco.—p. 65.
Functions of Differentiated Segments of Uriniferous Tubule. R. R. Bensley and W. B. Steen, Chicago.—p. 75.
Postnatal Development of Lung. H. G. Willson, Toronto.—p. 97.
Study of Glomeruli in Kidneys of Man and Mammals. B. Vimtrup, Copenhagen.—p. 123.

American J. Public Health, New York

18: 131-268 (Feb.) 1928

What Can We Do About Measles? G. C. Ruhland and A. C. Silverman, Syracuse, N. Y.—p. 131.
Preparation and Presentation of Papers. M. P. Ravenel, Columbia, Mo.—p. 140.
Health Observations in Mississippi Flood Area. W. DeKleine, Salem, Ore.—p. 145.
Relief Measures During and Following Mississippi Valley Flood. J. H. O'Neill, New Orleans.—p. 154.
Dental Hygiene Aspects of School Health Problem. H. D. Cross, Boston.—p. 161.
Chemistry and Health. H. W. Redfield, Mendham, N. J.—p. 170.
Problem of Decolorization. E. W. Stearn and A. E. Stearn, Columbia, Mo.—p. 174.
Who Shall Teach Hygiene in College? J. F. Williams, New York.—p. 190.
Medians for Milk Counts. J. F. Norton, Chicago.—p. 214.
Satisfactory Method of Staining Blood Slides for Malaria. W. Krauss, Memphis, Tenn.—p. 215.

18: 269-412 (March) 1928

Medicolegal Aspects of Occupational Disease. H. H. Kessler and B. S. Coleman, Newark, N. J.—p. 269.
Technic of Meetings. A. E. Gorman, Chicago.—p. 282.
Suggested Monthly Check Sheet Based on Appraisal Form for Rural Health Work. H. S. Mustard, Murfreesboro, Tenn.—p. 300.
Intensive Newspaper Crusade for Control of Cancer. G. A. Soper, New York.—p. 307.
Hunting Vitamin. W. H. Eddy New York.—p. 313.
School Ventilation Study in Syracuse, N. Y.: School Year, 1926-1927. T. J. Duffield, New York.—p. 326.

Annals of Internal Medicine, Ann Arbor, Mich.

1: 637-746 (March) 1928

Gastroduodenal Hemorrhage. F. Smithies, Chicago.—p. 637.
*Experiments with Phenylhydrazine: I. Studies on Blood. H. Z. Giffin and E. V. Allen, Rochester, Minn.—p. 655.
*Id.: II. Studies on Renal and Hepatic Function and Erythropoiesis. E. V. Allen and H. Z. Giffin, Rochester, Minn.—p. 677.
*Id.: III. Pathologic Anatomy. E. V. Allen and N. W. Barker, Rochester, Minn.—p. 683.
*Tetany and Chronic Diarrhea. A. M. Snell and H. C. Habein, Rochester, Minn.—p. 694.
*Significance of Ureteral Stricture in Relation to Abdominal and Other Symptoms. J. T. Watkins and R. E. Cumming, Detroit.—p 707.
Management of Goiter Patient. W. C. Stoner, Cleveland.—p. 729.

Effect of Phenylhydrazine on Blood.—Dogs given phenylhydrazine hydrochloride for 146 days in a period of eight months and a total dosage comparable to that of from four to six years of treatment of polycythemia vera in man were well at the end of the experiments. The drug had equal effects whether given subcutaneously or by stomach tube. Each milligram of phenylhydrazine for each kilogram of body weight caused a decrease of 38,000 erythrocytes when given in comparatively large doses within a three day period, and as little as 9,000 when given over long periods in smaller doses. Clinically, in polycythemia vera a decrease of 47,500 cells has been demonstrated, a difference which Giffin and Allen believe is probably due to increased susceptibility of the red cells in polycythemia vera. A reduction dose may become a maintenance dose if continued. The reason for this is not clear, but is probably explained by secondary stimulation of the bone marrow.

Effect of Phenylhydrazine on Kidneys and Liver.—Each of three dogs was given a total dosage of approximately 1.26 Gm. of phenylhydrazine hydrochloride over a period of eight months, the equivalent of from four to six years of clinical treatment in man. The final studies of renal and hepatic function were made by Allen and Giffin one month after the drug had been discontinued. There was an average reduction of 27 per cent in phenolsulphonphthalein excretion, but the final readings were within normal limits. Urinalysis were negative; blood urea estimations were normal. These data indicate that the renal function was adequate after prolonged treatment, but they do not prove that the kidneys were not impaired by the drug. Only one of three dogs receiving similar amounts of phenylhydrazine showed reduction in dye excretion from the liver. This change was small and of questionable significance. The rate of regeneration of erythrocytes was unchanged. The removal of the spleen was without influence on the effect of phenylhydrazine on the number of erythrocytes.

Effect of Phenylhydrazine on Tissues.—Two dogs were given 146 daily doses of phenylhydrazine hydrochloride in a period of eight months in amounts sufficient to produce an effect on the erythrocytes comparable to that desired in the clinical use of phenylhydrazine. The total dosage, calculated on the basis of body weight, was equivalent to that necessary in the treatment of the usual case of polycythemia vera for from four to six years. Necropsy and histologic examination made by Allen and Barker four and five months, respectively, after phenylhydrazine had been withdrawn, and twelve and thirteen months respectively, after the beginning of the experiments did not show anything abnormal which could be attributed definitely to phenylhydrazine, except increased deposition of iron in the liver and spleen. One dog was given doses of phenylhydrazine which were lethal in six days. The only significant evidence which could be definitely attributed to phenylhydrazine, per se, was that of rapid destruction of erythrocytes and hemoglobin, atrophy of the parenchymal cells of the liver, reduction in the number of the splenic leukocytes, and overloading of the cells of the renal convoluted tubules with iron. Partial necropsy on two dogs given similar doses showed the same changes in the liver and kidneys.

Tetany and Chronic Diarrhea.—A case of tetany due to diarrhea of obscure origin with nutritional and constitutional defects is described by Snell and Habein. The occurrence of related cases in the literature and the possible relation of this syndrome to sprue and intestinal infantilism is considered. The experimental evidence showing the relation of the intestinal tract to tetany, and the possible influence of altered intestinal permeability on calcium absorption and excretion is discussed. The therapeutic response in this case to the administration of parathormone and calcium lactate was striking, as shown by symptomatic improvement and by the behavior of the serum calcium. In view of the possible calcium depletion by parathormone, the necessity of adjuvant measures to protect the calcium reserve is emphasized.

Incidence of Ureteral Stricture.—Watkins and Cumming believe that ureteral stricture is of very frequent occurrence and that it represents a definite clinical entity. Patients in whom a diagnosis of chronic appendicitis seems logical but unsupported by a history of attacks as well as patients with chronic gallbladder manifestations—with or without stone—should be submitted to an investigation of the kidney-ureter-bladder tract before surgical procedures are instituted. No patient with recurrent urinary tract symptoms should be treated symptomatically alone, and surgery should not be

resorted to as a diagnostic procedure until after an investigation has proved with reasonable satisfaction that the ureter is not at fault. Eight cases are reviewed.

Archives of Internal Medicine, Chicago

41: 453-613 (April) 1928

*Synthalin: Use and Treatment of Diabetes. A. I. Ringer and Others, New York.—p. 453.
*Occurrence of Hypersensitiveness or Allergy in Five Generations of One Family. A. E. Smith, St. Louis.—p. 472.
*Hemocidal Propgrties of Blood Serum: Pernicious Anemia. O. H. Horrall, Chicago, and T. E. Buchman, Jacksonville, Fla.—p. 482.
Record System Suitable for Both Clinical and Statistical Medicine. H. L. Dunn and R. Rockwood, Baltimore.—p. 499.
Chronic Splenomegaly. W. C. MacCarty, Rochester, Minn.—p. 536.
*Intradermal Salt Solution Test in Tuberculosis. A. Feldman, Chicago. —p. 549.
Councilmania Tenuis and C. Dissimilis, Intestinal Amebas of Man. C. A. Kofoid, Berkeley, Calif.—p. 558.
Culture Methods, Encystment and Excystment of Councilmania Dissimilis Kofoid, in Culture. E. A. Allen, Berkeley, Calif.—p. 574.
Presentation of Case of Infection with Councilmania Dissimilis Kofoid. L. M. Boyers, Berkeley, Calif.—p. 579.
Variations in Reducing Power (Sugar) of Normal Human Blood. H. F. Pierce and E. L. Scott, New York.—p. 586.
*Bacteriologic Examination of Sputum in Bronchial Asthma. I. C. Walker and J. Adkinson, Boston.—p. 601.

Uses of Synthalin.—A survey made by Ringer et al. of the action of synthalin seems to show that its discoverers have made a tremendous step in the right direction. This substance is capable of clearing up or diminishing glycosuria and ketonuria when administered in tablet form by mouth. This is a decided advantage from the patient's point of view. The possibility of gastric distress setting in is an annoying feature. Synthalin has another disadvantage as compared with insulin; its action is not prompt. In one case, it took four days before any effect was noticeable; this characteristic precludes its being used in emergencies. In simple cases of diabetes in which the use of insulin is not desired, however, synthalin may be tried.

Heredity of Allergy.—A family of ninety-four persons and five generations was studied by Smith in regard to the hereditary occurrence of allergic manifestations. The manifestations of allergy considered were: asthma, hay-fever, vasomotor rhinitis, urticaria, angioneurotic edema and eczema. Twenty-three persons who were married to members of the E family have been used as controls. In the E family, 56.2 per cent of the members were allergic. Among the twenty-three controls, not related to the family except by marriage, only one was allergic. The results of this survey support the contention that allergy is familial in distribution. Given forms of allergy manifestations apparently tend to be prevalent among closely related persons.

Hemolytic Substance in Blood Serum in Pernicious Anemia.—Horrall and Buchman state that the blood serum in patients with pernicious anemia who are having a relapse contains a hemolytic substance for its own red cells and also for normal red cells. Serum in hemolytic jaundice and septic anemia also contains a hemolytic substance.

Intradermal Salt Solution Test in Tuberculosis.—The intradermal salt solution test was performed by Feldman on twenty-six patients with pulmonary tuberculosis, two with miliary tuberculosis, one with pulmonary and acute miliary tuberculosis, and one with tuberculous peritonitis. In twenty-four of the twenty-nine patients the disappearance time of the elevation caused by the injection fell below the lower limit of normal, and in most of these it was greatly below normal. In general, the shortest times were obtained in patients with symptoms of toxicity, who in many instances had a septic type of temperature. Extended disappearance time was usually noted in patients with a tendency to subnormal temperature. That pulmonary tuberculosis does not always cause a markedly short disappearance time is shown by the observation of a disappearance time of sixty minutes or more in five patients, four of whom died within fifteen days after the time of the tests. The possibility that secondary infection may have played an important part in causing the short disappearance times in these tuberculous patients must be considered.

Bacteriology of Sputum in Bronchial Asthma.—A bacteriologic examination of 724 washed specimens of sputum from the bronchial tubes of as many patients with asthmatic bronchitis was made by Walker and Adkinson. The prevalence of hemolytic and nonhemolytic streptococci varies from year to year, but it does not seem to vary during the cool period of the same year; changes in prevalence occur during the summer season. The presence of the subgroups or individual varieties of both hemolytic and nonhemolytic streptococci varies in the same manner. Among the hemolytic varieties of streptococci, not more than four of the eight were predominant during any one period, and among the nonhemolytic varieties of streptococci, not more than five of the eight predominated during any one period; usually a lesser number of varieties were predominant. In any one specimen of sputum, it was unusual to recover more than three different varieties of streptococci; in one third of the specimens, only two varieties were recovered, and in more than one third of the specimens, only one variety of streptococcus was recovered. With the exception of *Staphylococcus pyogenes-aureus*, which occasionally is present in notable numbers, bacteria other than streptococci are not prevalent in the sputum of asthmatic patients in sufficient numbers to be comparable to the streptococcus group.

Archives of Neurology and Psychiatry, Chicago

19: 573-750 (April) 1928

Forebrain. A. Meyer, Baltimore, and L. Hausman, New York.—p. 573.
*Ventricular System. C. A. Elsberg and S. Silbert, New York.—p. 596.
*Cerebellar Tumors Occurring in Identical Twins. F. H. Leavitt, Philadelphia.—p. 617.
Subacute Diffuse Ependymitis: Simulating Tumor of Brain. J. H. Globus and I. Strauss, New York.—p. 623.
*Rabies in Man. K. Lowenberg, Foxborough, Mass.—p. 638.
Measurement of Cerebral and Cerebellar Surfaces. W. M. Kraus, New York.—p. 647.
Atypical Neuralgia: Unsuccessful Attempts to Relieve Patients by Operations on Cervical Sympathetic System. C. H. Frazier, Philadelphia. —p. 650.
Electromyographic Studies in Different Types of Neuromuscular Disturbances. C. P. Richter and F. R. Ford, Baltimore.—p. 660.
Has Pediatrician Any Place in Mental Hygiene Movement? B. Crothers, Boston.—p. 677.
*Etiology of Migraine. J. C. Moloney, Detroit.—p. 684.
Torula Histolytica Meningo-Encephalitis. G. W. Hall, E. F. Hirsch and H. Mock, Chicago.—p. 689.
Fracture into Frontal Sinuses with Discharge of Cerebrospinal Fluid for Over Year: Case with Death from Pneumococcus Meningitis. A. H. Woods, Peking, and F. L. Meleney, New York.—p. 694.
Excessive Movement in Laughing on Side of Face Paralyzed for Voluntary Innervation in Central Lesion of Facial Fibers. W. G. Spiller, Philadelphia.—p. 699.

Ventricular System of Brain.—Elsberg and Silbert discuss the ventricular system in its relation to the cerebellum. Ventriculography and other ventricular evidence in the recognition of cerebellar disease is also discussed.

Cerebellar Tumors in Identical Twins.—In this case, the first twin died at the age of 6½ years; the second died when 8½ years of age. At the time of the death of the first twin, the second had not shown any symptoms of the illness. Leavitt believes that the identical occurrence of cerebellar tumors in monozygotic twins may be construed as evidence strongly supporting the "fetal rest" theory of the development of the neoplastic tissue. There can be little doubt that the twins had cerebellar neoplasms in similar situations, and, as the structure of the tumor examined was composed of embryonic cells, and as it is believed that monozygotic twins develop as a result of the splitting of a single fertilized ovum, Leavitt is of the opinion that both of these tumors were due to a "fetal rest" of embryonic tissue remaining as a pathologic nidus in the roof of the fourth ventricle of each twin, staying there in a quiescent state from the time of the splitting of the original single ovum until some years later when some factor stimulated the pathologic growth of this group of embryonic cells in each twin.

Rabies in Man: Study of Brain Lesions.—A microscopic study of the nerve lesions in four cases of human rabies is reported by Lowenberg. Both inflammatory and degenerative lesions were found, with a tendency of the former to localize in the midbrain (substantia nigra and substantia grisea) and at times also in the meninges; degenerative lesions had a tendency to localize in the cortex and basal ganglions. The conditions in two of the cases showed a similarity to

those of epidemic encephalitis. In the other two, however, new elements were added to the picture, tending to give it a character of its own. There appears to be a relation between the length of the period of incubation and the character of the lesion. The shorter this period, the more acute and intense is the process.

Etiology of Migraine.—It is Moloney's belief that a submerged intrinsic physiopathic mechanism is responsible for allergy and for migraine. This mechanism is similar for both conditions, the clinical manifestations being regional expressions of the same process. This mechanism is hereditary. Heredity is only partially selective in its regional expression; nonallergic persons with migraine have a higher percentage of allergy in their family history than do nonallergic persons who do not have migraine; likewise, nonmigrainous allergic persons show a higher percentage of migraine in their family history than do nonmigrainous persons without allergy. Recent work by other investigators and Moloney's studies on epilepsy would tend to preclude the possibility that epilepsy is due to the same mechanism that causes migraine and allergy.

Archives of Surgery, Chicago

16: 807-978 (April) 1928

*Multiple Myeloma. C. F. Geschickter and M. M. Copeland, Baltimore. —p. 807.
*Perforation of Diaphragm: Result of Intra-Abdominal Suppuration. J. H. Clark, Philadelphia.—p. 864.
Acute Appendicitis: 1,000 Consecutive Cases. E. P. Quain and R. H. Waldschmidt, Bismarck, N. D.—p. 868.
*Postoperative Prognosis of Cancer of Breast. E. M. Stanton, Schenectady, N. Y.—p. 879.
*End-Results in Major Amputations. J. Kuhns and P. D. Wilson, Boston.—p. 887.
Relation of Parathyroids to Healing of Fracture as Controlled by Roentgen Rays. D. E. Ross, Montreal.—p. 922.
*End-Results in Thiersch Graft After Thirty Years. G. A. Williams, Atlanta, Ga.—p. 938.
*Healing of Fractures. L. W. Ely, San Francisco.—p. 942.
Review of Urologic Surgery. A. J. Scholl, Los Angeles, and Others. —p. 951.

Multiple Myeloma.—Geschickter and Copeland report thirteen cases and analyze 412 cases reported in the literature since 1848. Myeloma was found to constitute about 0.03 per cent of malignant conditions of all types, with the etiologic factors of heredity, trauma and infection playing little, if any, rôle in its production. Among the clinical symptoms, intermittent rheumatic pains were found a leading symptom of onset, localized chiefly in the lumbar region with radiations to the legs and girdlelike sensations about the lower part of the thorax, aggravated by motion and typified in their course by insidious onset, sharp exacerbation, remissions and final agonizing termination. Multiplicity of tumors involving the thoracic cage was present in more than 90 per cent of the cases, the tumors being relatively small and elastic, with occasional pulsation, crepitation and regression. Skeletal deformity was shown to occur in 60 per cent of the patients characterized by a sunken sternum, "parasternal rosary," dorsal kyphosis, shortening of stature, and pathologic fracture, with an incidence of 63 per cent, affecting the ribs most frequently. Bronchitis and emphysema associated with thoracic deformities were found in 55 per cent of the series, followed by a terminal pneumonia in a majority of these instances. Neurologic involvement secondary to bony change was noted in 40 per cent of all cases, with radiculitis and paraplegia of the extremities predominant features. Among the less common manifestations of the disease were noted gastro-intestinal disturbance and metastatic involvement of the lymph glands, liver and spleen. Bence-Jones bodies were found to be excreted in 65 per cent of the cases.

Perforation of Diaphragm by Intra-Abdominal Suppuration.—One of Clark's cases was the result of a typical perinephritic abscess; the second case illustrates an extensive retroperitoneal inflammatory process resulting from a retrocecal appendix and perforating the diaphragm in its extraperitoneal portion. This case is unusual in that there were no signs of inflammation in the true peritoneal cavity, apart from a paralytic ileus, although a rather extensive inflammatory and necrotic process had been present within the abdomen for a month. In the third case, the diaphragm was perforated during the course of an acute generalized suppurative peritonitis.

Postoperative Prognosis of Cancer of Breast.—A study of the individual histories of the cases here summarized and of other cases reported in the literature, Stanton says, would seem to indicate that in the present state of knowledge the actual malignancy of the individual case can probably as yet be most accurately estimated by the careful observation of the extent of the growth and metastases at the time of operation and the estimation of the rapidity of growth and metastasis in terms of the period which has elapsed between the first discovery of the tumor and the time of operation.

End-Results in Major Amputations.—The 420 cases of amputations analyzed by Kuhns and Wilson constituted 1 per cent of all operations, and 0.64 per cent of all hospital admissions. The most common causes of amputation were trauma and sepsis, which together accounted for 37 per cent of the cases. The hospital mortality following amputation was 11.6 per cent. Forty per cent of the deaths were due to shock and septicemia. Postoperative complications were noted in 167 of 420 cases, of which 20.8 per cent were wound infections, 2.4 per cent bronchopneumonia, 1.9 per cent extending gangrene, and 0.4 per cent pulmonary embolism. Postoperative hemorrhage occurred in only two cases. The patients on whom amputation was performed by the open method were free from acute septic complications. Sixty-seven per cent of the patients with amputations of the thigh used appliances. The longer the stump, the better were the results obtained. Eighty-five per cent of the patients with amputations of the lower leg used appliances. Of the 360 primary amputations performed, reamputation was required in fifty-three cases, or 14.7 per cent. First intention healing was obtained in only 42 per cent. Traumatic amputations were twice as common as amputations from any other cause. In amputations for thrombo-angiitis obliterans and endarteritis, the results were unsatisfactory chiefly because of progression of the disease, involvement of other limbs and the necessity of repeated amputations. In amputations for tuberculosis, a large number of the patients died of tuberculous complications within two years of amputation. When amputation was performed for diabetic gangrene, only a few of the patients survived for more than a few years. In both diabetic and arteriosclerotic gangrene, the best functional results were obtained with the Gritti-Stokes amputations. Eight of twenty-eight patients on whom amputation was performed for sarcoma have remained well for a number of years, indicating that the prognosis after amputation is better than has been generally thought.

End-Results of Thiersch Graft.—After a period of thirty years, a Thiersch graft on the posterolateral surface of the leg of a laundress was found by Williams to give excellent protection and a fair cosmetic result. Sensation was only moderately impaired, but secretion and excretion were entirely lost, and for this function the graft was entirely dependent on the adjacent skin. A histologic study disclosed results which were in keeping with the amount of tissue transplanted and the processes involved in its successful conclusion. It would seem that a whole thickness graft would be the method of choice in most instances, because more structures of the corium would persist and thus permit the function of the transplant more closely to approximate the normal.

Healing of Fractures.—The following results were obtained by Ely from experiments on five cats: one fracture with removal of periosteum, thirty-two days, cartilaginous union; one fracture with stripping of periosteum, 119 days, union; one fracture with stripping of periosteum, thirty-three days, no union; one fracture with removal of periosteum, twenty-five days, no union, and one fracture with removal of periosteum, seventy-six days, union. The two cats that were allowed to live more than thirty-five days showed bony union. In one of them the periosteum had been removed as carefully as possible; in the other it had simply been stripped. In the three animals killed in less than thirty-five days, bony union was not present. In two of these the slides

looked as if a new joint were being formed. Apparently, though the experiments are too few to determine this, the result of stripping the periosteum is the same as of removing it. Most of the activity in new bone formation after fracture with overriding is on the outside of the two cortices facing each other. In this bone formation the periosteum does not take part. The internal or medullary callus does not play an active part.

Arkansas Medical Society Journal, Little Rock

24: 203-219 (April) 1928

Apparatus for Pneumothorax Refills S. P. Bond, Little Rock.—p. 206.

Atlantic Medical Journal, Harrisburg, Pa.

31: 449-528 (April) 1928

How Cancer Problem is Handled in Massachusetts. Kendall Emerson, Worcester, Mass.—p. 449.
Borderline Problems in Pediatrics and Urology. H. L. Kretschmer, Chicago.—p. 452.
Etiology, Diagnosis and Medical Treatment of Acute Pyelitis in Children. N. D. Gannon, Erie, Pa.—p. 456.
Chronic Pyelitis in Infancy and Childhood. H. F. Helmholz, Rochester, Minn.—p. 458.
Diagnosis and Surgical Treatment of Urologic Conditions in Children. B. A. Thomas and J. C. Birdsall, Philadelphia.—p. 462.
Practicability of Modern Cystoscope in Urology of Infancy and Childhood. L. Herman, Philadelphia.—p. 466.
Enuresis: Etiology and Treatment. J. M. Mitchell, Bryn Mawr, Pa.—p. 469.
Prognosis of Hypertension. L. Hamman, Baltimore.—p. 472.
Contributions of Laboratory in Diagnosis and Treatment of Poor Surgical Risk. J. Eiman, Philadelphia.—p. 480.
Complicating Pathologic Factors in Abdominal Surgery. J. H. Jopson, Philadelphia.—p. 484.
Poor-Risk Goiter Patient. D. Guthrie, Sayre, Pa.—p. 487.
Vesical Calculus in Female. F. C. Hammond, Philadelphia.—p. 491.
Acute Hemorrhagic Enteritis in Arteriosclerotic Patient. E. P. Griffiths, Etna, Pa.—p. 492.

California and Western Medicine, San Francisco

28: 435-594 (April) 1928

Treatment of Pernicious Anemia. C. C. Sturgis, R. Isaacs and M. Smith, Ann Arbor, Mich.—p. 467.
Roentgen-Ray Differentiation of Bone Tumors. W. B. Bowman and L. S. Goin, Los Angeles.—p. 470.
*Use of Alcohol as Standard Gastric Test Meal. G. Cheney, San Francisco.—p. 474.
*Association of Susceptibility to Scarlet Fever and Acute Tonsillitis. A. L. Bloomfield, San Francisco.—p. 477.
Cancer of Uterus. E. N. Ewer, Oakland.—p. 482.
Surgical Prostate. L. C. Jacobs, San Francisco.—p. 486.
Molluscum Contagiosum. H. A. Kiefer, Los Angeles.—p. 490.
Sickness Versus Accidents in Industry. C. O. Sappington, Oakland.—p. 491.
Lure of Medical History: Galen. C. W. Mack, Livermore.—p. 495.
*Congenital Heart Defects. H. E. Butka, Los Angeles.—p. 497.
Hess Curtain (or Coordimeter) as Aid in Diagnosis of Palsies of Extrinsic Ocular Muscles. D. K. Pischel, San Francisco.—p. 499.
Mucocele of Appendix: Two Cases. D. D. Weaver, Oakland.—p. 500.

Use of Alcohol as Standard Gastric Test Meal.—The technic of the use of alcohol as a standard gastric test meal is similar to that of any other test meal. Early in the morning, after twelve hours' fasting, a Rehfuss tube is passed and all the stomach contents are removed. The meal, consisting of 100 cc. of 7 per cent alcohol, is then injected into the stomach through the tube and samples are withdrawn at half hour intervals up to one and one-half hours after the meal. There is no stoppage of the tube by bits of food, the specimens are clear, and small amounts of bile, blood or mucus are readily recognized. The microscopic examination of the sediment and the tests for blood and lactic acid are readily carried out, and it is not necessary to filter the contents to read the acid determinations with Topfer's reagent and with phenolphthalein. Cheney has made a comparison of the gastric acidity in response to oatmeal gruel in 1,080 cases and to alcohol in 150 cases. In the oatmeal group, achlorhydria was present 159 times, or 14.7 per cent, in the alcohol group, thirty-five times or 23 per cent. Hypochlorhydria was present eighty-six times in the oatmeal group (8 per cent) and sixteen times (10 per cent) in the alcohol group. Hyperchlorhydria was present in 201 cases (18.6 per cent) of the oatmeal group and twenty times (13.3 per cent) in the alcohol group. The routine fractional gastric test meal now adopted by Cheney consists of 50 cc. of 7 per cent alcohol, with removal of samples at the end of fifteen, thirty, forty-five and sixty minutes. The fasting contents are removed before the meal. The use of alcohol as a meal in fractional gastric analysis is recommended.

Association of Susceptibility to Scarlet Fever and Acute Tonsillitis. — Bloomfield concludes that certain persons possess a "natural" or at least unexplained resistance to hemolytic streptococcal infection of the lymphadenoid tissues of the throat. There is a significant positive association between susceptibility to two types of infection of this sort—acute follicular tonsillitis and scarlet fever. There is no significant association between susceptibility to tonsillitis and diphtheria or to scarlet fever and diphtheria. The observation herewith presented indicates that invasion of the lymphadenoid tissues of the throat by scarlatinal, as well as other hemolytic streptococci, depends on some common factor of susceptibility.

Congenital Heart Defect.—In the case cited by Butka, the heart occupied the greater part of the left side of the chest, measuring 18 by 13 by 9 cm. The tricuspid valve was 17 cm. in circumference; the pulmonary valve was 11 cm. in circumference. Some sclerosis was present on both valves. The myocardium of the right ventricle measured 1.5 cm. in thickness. The cavity of the left ventricle was small and there was no stenosis of the mitral valve. The left auricle was small, consisting mainly of the auricle appendage. No blood vessels were found opening into the left auricle. The foramen ovale measured 5 cm. in diameter and was divided by strands into four sections, three of which were open and about equal in size, each measuring approximately 3 cm. in diameter. The entire supply of blood to the left side of the heart must have passed from the right side through this foramen. The aortic valve was 6 cm. in circumference. A careful study of the auricles revealed only the venae cavae entering the enlarged right auricle. The pulmonary veins opened into the superior vena cava very close to its junction with the auricle. A survey of the observations in this case led Butka to conclude that this patient suffered from a congenital defect causing the entire blood supply to return from the lungs to the right side of the heart along with the venous blood from the superior and inferior vena cava. A portion of this blood passed through the patent foramen ovale and entered the systemic circulation. The symptoms caused by this condition were sufficiently mild to permit of the patient's growth to adult life, thirty-one years; and to enable him to earn his living by a life of moderate activity at manual labor, and to support a wife and child.

Endocrinology, Los Angeles

12: 1-128 (Jan.-Feb.) 1928

Diagnosis of Abnormal Function of Endocrine Glands. A. W. Rowe, Boston.—p. 1.
Exophthalmic Goiter and Myxedema: Case. S. F. Haines, Rochester, Minn.—p. 55.
Epinephrine Sensitiveness at Menopause. J. H. Hannan, London.—p. 59.
Thyroxin as Depressant of Cell Division: Its Effect on Cleavage and Early Development of Sea Urchin and Ascidian. H. B. Torrey, New York.—p. 65.
Effects of Ultraviolet Ray on Parathyroidectomized Rats. F. T. Jung, Chicago.—p. 81.
Storage of Sulphur in Suprarenal Glands. M. Lurie, New York.—p 84.

Johns Hopkins Hospital Bulletin, Baltimore

42: 191-244 (April) 1928

Inactivation of Chicken-Tumor Virus by Means of Calcium Compounds. M. R. Lewis and H. B. Andervont, Baltimore.—p. 191.
Purification of Heparin: Chemical and Physiologic Reactions. W. H. Howell, Baltimore.—p. 199.
Effects of Glycocyamine and Glycocyamidine on Blood Pressure. R. H. Major and C. J. Weber, Kansas City, Kan.—p. 207.

Journal of Experimental Medicine, Baltimore

47: 493-636 (April) 1928

*Experimentally Produced Sarcoma of Chicken. E. Sturm and J. B. Murphy, New York.—p. 493.
Use of Histamine as Standard Test for Diminished Resistance in Suprarenalectomized Rats. J. Marmorston-Gottesman and J. Gottesman, New York.—p. 503.
Local Specific Therapy of Experimental Pneumococcal Meningitis: IV. Type II Pneumococcal Meningitis in Dogs. F. W. Stewart.—p. 515.
Production of Skin Necrosis by Certain Autolysates of Pneumococcus (Types I and II). J. T. Parker, New York.—p. 531.

Calcium and Inorganic Phosphorus in Blood of Rabbits: I. W. H. Brown, New York.—p. 539.
Id.: II. W. H. Brown, New York.—p. 563.
Interconvertibility of R and S Forms of Pneumococcus. M. H. Dawson, New York.—p. 577.
Physiologic Action of Hematoporphyrin. H. Smetana, Peking.—p. 593.
*Reciprocal Effects of Concomitant Infections: I. Influence of Vaccinia on Reaction to Infection with Experimental Syphilis. L. Pearce, New York.—p. 611.

Experimental Sarcoma.—Numerous attempts have been made by Sturm and Murphy to separate from the cells of a tar sarcoma of the chicken (chicken tumor 9) a causative agent for the growth. Experiments with filtrates and desiccates injected as such or in combinations with embryonic tissues have all failed to give positive results. So, too, have injections of filtrates and desiccates into developing chick embryos failed to yield a response.

Reciprocal Effect of Concomitant Infections.—Experiments are reported on by Pearce in which the effect of a concomitant infection, vaccinia, on the syphilitic reaction of rabbits was studied. Vaccine virus was inoculated intracutaneously on the side of the body at the time of the intratesticular inoculation with *Spirochaeta pallida*. The results showed clearly that the vaccination caused a profound disturbance in the syphilitic reaction, the ensuing syphilis being extremely severe. From an analysis of the various features of the reaction, it appeared that the factor of host resistance was primarily concerned in the effects observed.

Journal of Laboratory & Clin. Medicine, St. Louis

13: 613-710 (April) 1928

Endamebic Dysentery. H. S. Hutchison, Tant, Egypt.—p. 613.
*Sodium Thiosulphate: I. Effect on Arsenic Elimination. A. G. Young, Ann Arbor, Mich.—p. 622.
*Id. II. Effect on Excretion of Lead. A. C. Curtis and A. G. Young, Ann Arbor, Mich.—p. 628.
Rôle of Specific and Nonspecific Factors in Allergy and Allergic Equilibrium. W. T. Vaughan, Richmond, Va.—p. 633.
*Renal Diabetes Associated with Diabetes Mellitus. J. A. Curran and C. A. Mills, Peking.—p. 646.
Species of Escherichia from Gaseous Infection. F. W. Shaw, Richmond, Va.—p. 648.
*Modification of McLean-Van Slyke Method for Estimation of Chlorides in Blood. M. I. Hanna, Toronto.—p. 651.
Simplified Technic for Studying Secretion of Lymph. L. R. Dragstedt and C. A. Dragstedt, Chicago.—p. 654.
Simple Artificial Respiration Apparatus. E. J. Van Liere and R. S. Allen, Chicago.—p. 655.
Simplified Apparatus and Technic for Determination of Icterus Index. R. C. Pigford, New Orleans.—p. 658.
New Animal Board. I. F. Huddleson and E. R. Carlson, East Lansing, Mich.—p. 660.
Estimation of Red Cell Fragility: Hematocrit Method. H. Silvette, Richmond, Va.—p. 662.
Bunsen Valve in Blood Urea Determinations. F. P. Brooks, Chapel Hill, N. C.—p. 668.
Aid in Estimation of Blood Calcium. E. M. Watson, London, Ont.—p. 670.
Laboratory Technic, Blood Cultures, Etc. T. B. Magath, Rochester, Minn.—p. 672.
Colloidal Gold Solution: Preparation and Titration with Permanent H Ion Concentration Standards. V. Christina and C. S. Green, New York.—p. 678.
New Automatic Pipet: Incorporating Mechanically Operated Two-Way Valve. F. W. Hartman, Detroit.—p. 681.
Reflex Nature of Strychnine Convulsions. S. J. Cohen, Chicago.—p. 685.
Simple Drop Counter. E. J. Poth, Baltimore.—p. 686.
Volhard-Harvey Method for Estimation of Chlorides in Urine. W. H. Jeffery, Providence, R. I.—p. 687.
Improved Technic for Demonstrating Experimental Jacksonian Epilepsy. L. R. Dragstedt and C. A. Dragstedt, Chicago.—p. 688.
Method for Studying Secretion of Urine in Experimental Animals. C. A. Dragstedt and L. R. Dragstedt, Chicago.—p. 688.

Effect of Sodium Thiosulphate on Arsenic Elimination.—The experimental data submitted by Young show that in most instances the thiosulphate has markedly diminished the rate of arsenic excretion, and has never increased it, even when there is pronounced diuresis. The experimental work on rabbits would indicate that the drug has some value in preventing kidney injury in chronic intoxication but that its value as an antidote when large amounts of arsenic have been ingested is questionable.

Effect of Sodium Thiosulphate on Lead Excretion.—Evidence is presented by Curtis and Young that sodium thiosulphate given by mouth in doses of 0.5 Gm. per kilogram of body weight to guinea-pigs, rabbits and rats previously poisoned by lead does not appreciably affect the excretion of lead. The slight effect exerted is due to its alkaline reaction and not to any ability to form soluble or insoluble lead compounds.

Renal Diabetes Associated with Diabetes Mellitus.—Curran and Mills report the case of a man who manifested definite symptoms of diabetes mellitus, as evidenced by the blood sugar curve in the dextrose tolerance test and by the marked lessening of the urinary sugar on the reduction of the dextrose intake or with insulin administration. However, on a low food intake, with or without insulin, the sugar excretion continued at times when the blood-sugar level was normal or below normal (71 mg., 66.6 mg., 111 mg.). On the basis of these observations they made a definite diagnosis of renal diabetes associated with diabetes mellitus, and advised that, in the treatment of the latter disease, the urinary sugar caused by the former should be disregarded. The lack of any evidence of nephritic changes other than the reduced dextrose threshold places this case with the less frequently found type of renal diabetes which is not associated with chronic nephritis.

Method for Estimation of Blood Chlorides.—A modification of the methods devised by Van Slyke and his collaborators for the estimation of chloride in blood, which is applicable to Folin-Wu tungstic acid filtrates, is described by Hanna. The method is shown to be accurate within 1 per cent, or of the same order of accuracy as the original method. The advantage of the modification lies in the smaller amount of time, of work and of blood filtrate required for the determination.

New England Journal of Medicine, Boston

198: 325-378 (April 5) 1928

*Clinical Cardiovascular Progress in Past Decade. P. D. White, Boston.—p. 325.
Application of Pathology to Surgical Problems. E. A. Codman, Boston.—p. 330.
*Heliotherapy in Surgical Tuberculosis. N. Allison, Boston.—p. 332.
*Suspecting Tuberculosis. J. B. Hawes, II, Boston.—p. 336.
Selection of Cases for Medical or Surgical Treatment in Gastric and Duodenal Ulcer. H. Brooks, New York.—p. 339.
Surgical Consideration of Ulcer of Duodenum and Stomach. J. F. Erdmann, New York.—p. 344.
*Appendicitis in People Over Fifty Years of Age. E. M. Fitch, Claremont, N. H.—p. 348.
After-Effects of Toxemia of Pregnancy. F. E. Clow, Wolfeboro, N. H.—p. 351.

Value of Percussion of Heart.—White says that percussion of the heart has in practiced hands been revived as a valuable method of determining heart size and shape. Not only in the absence of a roentgenogram is it useful, but it may be more accurate than the roentgenogram if the latter has not been obtained with the greatest care, and such is not rarely the case. Therefore percussion should always be done, if for no other purpose than at least to check the roentgen ray. Two points in particular of much value in regard to percussion of the heart have arisen in recent years, and yet they are but little known generally. One is the use of the midclavicular line as a guide to the size of the heart in a given person. This line is drawn down over the precordium vertically from a point midway between the midsternum and the outer end of the left clavicle. This line is a far more constant and reliable index than is the nipple line. If the apex impulse and left border of dulness to percussion in the upright position are found outside this midclavicular line, enlargement or displacement of the heart is almost certain, even though these same conditions are inside the nipple line. The second new point in recent years of much value in percussion is the determination of the presence or absence of increased dulness in the third interspace to the left of the sternum. Increased dulness there in the absence of general cardiac enlargement means almost always either chronic mitral disease or congenital patency of the ductus arteriosus, with enlargement of the infundibulum of the right ventricle or of the pulmonary artery. Such enlargement may be found even when the apex impulse is in its normal position.

Heliotherapy in Surgical Tuberculosis.—Allison does not believe that extensively diseased joint areas may be reconstructed by the sun cure. In children seen early in the

disease, joints may be saved to useful function. Consequently, operative surgery is not indicated in tuberculosis of the bones and joints until methods of heliotherapy have been employed for long periods.

Early Diagnosis of Tuberculosis.—Hawes summarizes his views in regard to the best means of securing the more frequent early diagnosing of tuberculosis as follows: The facts concerning early diagnosis are already fairly well known to the medical profession. The difficulties lie in the present inadequate attention given to this subject by medical schools and the refusal of general hospitals to accept cases of tuberculosis or suspected tuberculosis for study and diagnosis. To get at patients with tuberculosis in the early stages more frequently than is now being done, every one must be taught how to suspect tuberculosis in its incipience and must urge patients to come to the physician with this point in mind. In teaching the laity the early signs of tuberculosis, chronic and undue fatigue, and loss of weight, strength and energy should be emphasized strongly.

Appendicitis in Persons Over Fifty.—Of 766 cases of appendicitis analyzed by Fitch, thirty-seven were in persons over 50 years of age. Eight of these died, giving a death rate in this class of patients of 21.6 per cent. There were twenty-four patients between the ages of 50 and 60, with one death, making the death rate 4.1 per cent. There were eleven patients in the ages between 60 and 70, with six deaths, making a death rate of 54.5 per cent. There were two patients over 70, with one death, or 50 per cent mortality. After the age of 50, the severity of the attack is much more marked, the pathologic involvement is more extensive, and the circulatory changes are pronounced.

Oklahoma State M. Association Journal, Muskogee

21: 73-100 (April) 1928

Kahn Precipitation Test in Syphilis. R. L. Hickman, Durant.—p. 76.
Diagnosis and Treatment of Pulmonary Tuberculosis. L. W. Frank, Denver.—p. 77.
Pulmonary Tuberculosis from Viewpoint of Roentgen Ray. I. H. Lockwood, Kansas City, Mo.—p. 84.
Personality Traits and Insanities. M. S. Gregory, Oklahoma City.—p. 86.

Public Health Journal, Toronto

19: 101-150 (March) 1928

Lister as Scientist. J. J. R. Macleod, Toronto.—p. 101.
Personal Reminiscences of Lord Lister. E. St. G. Baldwin, Toronto.—p. 112.
My Reminiscences of Lord Lister in Edinburgh. F. LeM. Grasett, Toronto.—p. 115.
Pasteurization of Milk. J. W. S. McCullough, Toronto.—p. 119.
Social Hygiene—Broad Conception. G. Bates, Toronto.—p. 124.

Public Health Reports, Washington, D. C.

43: 807-860 (April 6) 1928

Alcoholism and Drug Addiction as Seen in United States Marine Hospitals. H. M. Robertson, Washington, D. C.—p. 808.
National Leper Home (U. S. Marine Hospital), Carville, La. O. E. Denney, Washington, D. C.—p. 810.

South Carolina M. Association Journal, Greenville

24: 49-80 (March) 1928

Why Not Examine Rectum? F. M. Durham, Columbia.—p. 51.
Open Treatment of Fractures. C. B. Epps, Sumter.—p. 52.
Case of Liver Abscess. E. M. Hicks, Florence.—p. 58.
Technic for Erythrocyte Sedimentation Test and Its Diagnostic Value. W. H. Carrigan, Summerton.—p. 60.
Relation of Surgery to Public Health. B. F. Wyman, Columbia.—p. 61.
Patient as Individual. O. B. Chamberlain, Charleston.—p. 65.

Southwestern Medicine, Phoenix, Ariz.

12: 93-132 (March) 1928

Business Methods in Medical Practice. D. E. Wilson, Phoenix.—p. 93.
Medical Propaganda and Ethical Advertising. E. P. Palmer, Phoenix.—p. 94.
Probable Case of Acute Yellow Atrophy. S. H. Newman, El Paso, Texas.—p. 95.
Early Diagnosis of Pulmonary Tuberculosis. R. B. Homan, El Paso, Texas.—p. 99.
Elective Interference in Obstetric Practice. H. Leigh, El Paso, Texas.—p. 100.
Use of Iodine in Treatment of Enlargements of Thyroid. R. M. Waller, Manhattan, Kan.—p. 102.

West Virginia Medical Journal, Charleston

24: 157-208 (April) 1928

Prognosis of Hypertension. L. Hamman, Baltimore.—p. 157.
Surgical Treatment of Goiter. R. K. Buford, Charleston.—p. 166.
Common Goitrous Conditions. H. L. Robertson, Charleston.—p. 170.
Bronchoscopy. E. G. Gill, Roanoke, Va.—p. 173.
Relation of Health to Rural Communities. T. Parran, Jr., Washington, D. C.—p. 177.
Interpretation of Standards. F. L. Hupp, Wheeling.—p. 180.
Postmortem Findings in Death from Burns. C. W. Stallard and M. C. Borman, Montgomery.—p. 184.
Hypertension in Child. T. M. Barber, Charleston.—p. 186.

Wisconsin Medical Journal, Milwaukee

27: 99-152 (March) 1928

Lister as a Scientist. G. E. Seaman, Milwaukee.—p. 99.
Acute Surgical Lesions of Abdomen: Diagnosis and Treatment. R. H. Jackson, Madison.—p. 103.
Pulmonary Tuberculosis: A B C of Diagnosis. O. Lotz, Milwaukee.—p. 110.
Paranasal Sinus Disease in Infants and Young Children. G. F. Harkness, Davenport, Iowa.—p. 112.
Diagnostic Problems. L. M. Warfield, Milwaukee.—p. 118.
Swollen Tongue. J. R. Dundon, Milwaukee.—p. 120.
Left Pulmonary Vein Emptying Into Left Innominate. J. C. Dean and G. W. Fox, Madison.—p. 120.

FOREIGN

An asterisk (*) before a title indicates that the article is abstracted below. Single case reports and trials of new drugs are usually omitted.

Indian J. Medical Research, Calcutta

15: 553-836 (Jan.) 1928. Partial Index

*Liver Function in Sprue. S. S. Sokhey, S. K. Gokhale, M. A. Malandkar and H. S. Billimoria.—p. 553.
Provocative Action of Organic Compounds of Antimony in Leishmaniasis. R. N. Chopra and C. R. Das Gupta.—p. 565.
*Action of Cinchona Alkaloids on Uterus. R. N. Chopra, J. C. David and B. B. Dikshit.—p. 571.
*Hemolysis of Red Blood Corpuscles by Bile Salts and Inhibiting Action of Normal Serum and Egg Albumin: Permeability Change of Stroma. K. C. Sen and S. K. Basu.—p. 581.
*Studies in Malaria: VIII. Oral Administration of Quinine-Stovarsol in Treatment of Chronic Benign Tertian Malaria. J. A. Sinton, W. Bird and S. N. Eate.—p. 595.
Investigation of Dysentery and Diarrhea in Poona: I. General Findings and Epidemiology. J. A. Manifold and A. J. DeMonte.—p. 601.
Id.: II. Laboratory Findings. J. A. Manifold and A. J. DeMonte.—p. 623.
*Cholersterol Content of Indian Blood in Health and in Leprosy. T. C. Boyd and A. C. Roy.—p. 643.
Studies in Syphilis in Rabbits: Rabbits Naturally Positive to Wassermann and Kahn Tests. S. D. S. Greval.—p. 681.
*Kahn, Micro-Kahn and Wassermann Tests in Leprosy. S. D. S. Greval.—p. 683.
Comparative Observation on Wijs' and Hanus' Methods of Determining Iodine Values of Oils. A. D. Stewart and N. L. Banerjea.—p. 687.
Prevalence and Epidemiology of Hookworm and Other Helminthic Infections in India: XII. A. C. Chandler.—p. 695.
Malaria in Coorg. T. C. McCombie Young and J. D. Baily.—p. 745.
Studies on Lathyrism: II. R. McCarrison.—p. 797.
Experimental Production of Stone in Bladder: IV. R. McCarrison.—p. 801.
Rat Leprosy: Record of Experimental Work. E. Muir and J. M. Henderson.—p. 807.
Hydrogen Ion Content of Vaccine Lymph and Its Relation to Potency and Keeping Properties of Lymph Prepared Under Tropical Conditions. J. Cunningham and K. S. Mhaskar.—p. 819.
Method of Feeding Phlebotomus Argentipes with Relation to Its Bearing on Transmission of Kala-Azar. H. E. Shortt and C. S. Swaminath.—p. 827.

Liver Function in Sprue.—Thirteen cases of well marked sprue have been studied by Sokhey et al. Nitrogen partition does not reveal any inefficiency of the liver. The bromsulphalein dye retention test has given negative results, except in one case in which the result may well have been due to the extreme lowering of vitality generally on account of approaching death—the test was done three days before the patient died. Increase in the serum bilirubin in six cases, as shown by the indirect van den Bergh reaction, indicates increased destruction of erythrocytes rather than defective function of the liver. If the liver had been at fault, the dye test would have shown a parallel retention. Seven cases showed abnormal levulose tolerance curves, but on account of the nonspecific nature of this test, and the negative results yielded by the other tests, these abnormal curves cannot be interpreted in terms of liver inefficiency. In sprue, inanition may more likely be responsible for the abnormal levulose tolerance curves than the condition of the liver. This investigation, therefore, shows that in sprue

the liver is not affected to such an extent as to show impairment by liver function tests.

Action of Cinchona Alkaloids on Uterus.—Experiments made by Chopra et al. show that the oxytocic action of quinine is quite pronounced when the uterus is nearly full term, but in early cases of pregnancy, beyond slightly increasing the amplitude of the automatic movements, no untoward effect is likely to be produced. This is also borne out by clinical experience. No experimental evidence has been obtained to show that quinidine is more effective as an oxytocic than quinine or that it is ten times stronger in its stimulating action on the uterus than quinine.

Hemolysis of Red Blood Corpuscles by Bile Salts.—An experimental study was made by Sen and Basu on the inhibitory effect of blood serum and egg albumin on the glycocholate and taurocholate hemolysis of sheep's erythrocytes. It was found that glycocholate is a much stronger hemolyzing agent than taurocholate. The view has been put forward that hemolysis by bile salts is the visible sign of an irreversible peptization of the stroma. In the normal condition, the stroma is in a slightly peptized state. Blood serum inhibits the hemolytic effect by increasing the coagulability of the stroma, and it is a special case of the general antagonism between a coagulating agent and a peptizing agent in diphazic systems.

Quinine and Acetarsone in Malaria.—Acetarsone seems to be a useful adjuvant to quinine in the treatment of malaria. The compound quinine-acetarsone does not seem to be more efficacious than the two drugs given separately, but it is more easily administered. Sinton et al. think it is possible that if larger initial doses of both quinine and acetarsone were given during the first week of treatment followed by a course similar to the one they describe, better results against relapse might be obtained, especially if the amount of quinine was increased.

Cholesterol Content of Blood in Lepers.—According to Boyd and Roy, the cholesterol content of the whole blood taken from the population in and around Calcutta must be considered as slightly lower than the usually accepted European and American figure. The cholesterol content of the blood of lepers is reduced in the early stages of the disease. In advanced skin cases, the content is much more reduced. In advanced treated cases, the blood cholesterol content does not return to normal. Antirabic treatment does not have any effect on the cholesterol content of the whole blood.

Value of Tests for Syphilis in Leprosy.—In comparing 112 lepers with an equal number of nonlepers in whom syphilis was suspected (syphilitic suspects), Greval obtained Wassermann reactions that were almost identical. The Kahn test reduced the positive rate in both series. The reduction was less in the case of the lepers. There was no evidence to show that the lower positive rate with Kahn the test was due to an elimination of the "lepra reaction."

Lancet, London

1: 687-740 (April 7) 1928

*Epilepsy. J. Collier.—p. 687.
*Value of Bismuth Therapy in Syphilis. C. Levaditi and L. Fournier.—p. 692.
Transcondylar Fractures of Humerus in Children. F. D. Saner.—p. 698.
Chronic Glaucoma: Importance of Early Diagnosis. D. L. Davies.—p. 699.
*Multiple Pancreatic Calculi. E. C. Lindsay.—p. 700.
Case of Rheumatic Fever with Myelocytic Leukocytosis. W. Mackay.—p. 702.
*Ultraviolet Radiation in Treatment of Pemphigus Neonatorum. A. W. Gregorson.—p. 703.
Partial Gastrectomy for Pyloric Ulcer Followed by Two Jejunal Ulcers Perforating at Intervals of Six Months: Recovery. V. P. Robinson.—p. 703.

Treatment of Epilepsy.—Collier insists that in every case of epilepsy in which it is possible, education, occupation and recreation should continue without any restriction whatever. Even excitement, which is well known as a cause of fits, need not be interfered with. Medicinal treatment is, in the main, restricted to the use of drugs of the phenobarbital type. There does not seem to be any advantage in administering such drugs more than twice a day, or in using any but moderate doses—up to 1½ grains (0.1 Gm.). As the attacks occur at regular times and can be anticipated an hour in advance by a dose of the remedy, the condition can be more successfully treated. The only other remedies which really influence epilepsy are sodium bromide, zinc salts and belladonna. There are a few rare cases in which one or the other of these remedies is of signal benefit, and these are generally cases in which phenobarbital and the bromides have failed. Status epilepticus, however, is utterly resistant to these remedies. There is in this condition the utmost necessity to preserve bodily nutrition and strength by careful watering and feeding and by the use of stimulants, and this administration should be from the first by the nasal tube. One remedy which is of signal value in the treatment of status epilepticus is paraldehyde. This is a stimulant as well as a most powerful means of checking convulsion. It can be given in large doses, up to 8 drachms (30 cc.) without ill effect, and it is readily absorbable from the rectum when mixed with an equal quantity of olive oil. Collier also recommends the use of paraldehyde in any epilepsy whatever in which convulsive attacks are of frequent occurrence.

Value of Bismuth Therapy in Syphilis.—Levaditi and Fournier endorse the usefulness of the bismuth method of treatment by mouth in all cases of syphilis in which treatment by injection is contraindicated, or in which it is necessary to employ a method of treatment that is convenient and well tolerated by the patient.

Multiple Pancreatic Calculi.—In the case cited by Lindsay, the pain began mildly as an ache from half an hour to an hour after the ingestion of food and culminated in severe colic with sweating but no vomiting, a point of interest in comparison with gallstone colic. The pain began in the epigastrium and radiated later to the left side of the abdomen. This left-sided radiation has been noted in other pancreatic disturbances, such as the subacute forms of pancreatitis and penetrating gastric ulcers involving the pancreas. The conditions found at operation—a string of soft stones in the main duct, small particles of grit surrounding it in the lesser ducts, and, beyond, fibrotic back-pressure pancreas—suggest an origin of these calculi other than recurrent attacks of subacute pancreatitis. More probably they are catarrhal in origin, from an ascending infection from the duodenum, and closely allied to those seen in the submaxillary gland and duct. The stones were found to be mainly calcium carbonate, with a very small admixture of phosphate.

Ultraviolet Ray Treatment of Pemphigus.—Gregorson advances the theory that pemphigus neonatorum is a toxic neuritis and constitutional in origin. The disease is found most commonly in the infants of women who are in a low state of health at the time of confinement. As regards treatment, the most successful procedure is to keep the infant dry and to avoid bathing of any form. The necessary toilet is carried out with oil, and dryness is maintained over the whole body. Bathing spreads the disease. A series of cases have been treated by ultraviolet radiation with great success. The blebs soon dry and disappear, and the infant improves in general condition. The mercury vapor lamp was used twice weekly, at a distance of 2 feet for three minutes, the period of irradiation being increased by one minute to six minutes.

Medical Journal of Australia, Sydney

1: 355-388 (March 24) 1928

George Arlington Syme Triennial Lecture. F. D. Bird.—p. 356.
*Generalized Infections Due to Pseudomonas Erugenosa (Bacillus Pyocyaneus). A. B. Lilley and A. J. Bearup.—p. 362.
Hereditary Optic Atrophy in Five Generations. G. H. Hogg.—p. 372.
Hemorrhagic Cholecystitis. S. J. W. Dansey.—p. 374.

Generalized Pyocyaneus Infections.—The cases cited by Lilley and Bearup point to *Bacillus pyocyaneus* as sometimes causing a generalized infection. Nine cases are described in which the provisional diagnosis was typhoid. In five of these patients agglutinins for *Bacillus pyocyaneus* were present in the serum in a dilution of 1 : 80. In two, *Bacillus pyocyaueus* was recovered from the blood. In two, an organism was isolated from the blood which gave most of the cultural reactions of *Bacillus pyocyaneus*. The fifth patient was seen too late to permit a blood culture to be taken. The occurrence of *Bacillus pyocyaneus* in the water supply was conclusively proved, and the relation which its appearance in the supply bears to the fall of rain on the catchment area has been shown graphically. It is suggested that *Bacillus pyocyaneus* may be the cause of many so-called pyrexias of unknown origin.

Bruxelles-Médical, Brussels

8: 698-725 (March 25) 1928

Insulinemia. J. La Barre.—p. 698.
Application of High Forceps. R. Schockaert.—p. 708.
*Case of Urinary Amebiasis. A. Van Cutsem-Franco.—p. 711.

Case of Amebic Nephritis.—Van Cutsem-Franco reports a case of amebic nephritis in an infant. The only outward manifestation of the condition was hematuria. The three-glass test showed that the blood was coming from the kidneys. Microscopic examination of the urine disclosed a great many amebae. Eight injections of emetine cleared up the hematuria and caused the amebae in the urine to disappear.

Bulletins et Mém. de la Soc. Nat. de Chirurgie, Paris

54: 455-494 (March 31) 1928

*Cancerous Lesions in Ulcerations of Stomach Wall. P. Lecène.—p. 455.
Traumatism of Knee Joint. L. Bazy.—p. 459.
Radiologic Examination of Uterus. P. Mocquot.—p. 460.

Frequency of Cancerous Lesions in Callous Ulcerations of Stomach Wall.—Lecène thinks it impossible to determine macroscopically whether or not a simple chronic gastric ulcer is undergoing canceration. Histologic examination affords the only conclusive proof. In sixty-three gastrectomies for callous ulcer of the stomach wall which he performed since 1920, the results of the postoperative microscopic examination of the specimens were as follows: (1) of thirty-seven nonpenetrating callous ulcers, ten were definitely cancerous; (2) of twenty-six penetrating callous ulcers, five were definitely cancerous. In all of these cases, the patients had been very carefully examined clinically and roentgenologically. At the time of the operation, the differential diagnosis between simple chronic ulcer or cancer remained still undecided. Neither examination with the unaided eye nor digital exploration permitted a definite diagnosis of simple ulcer or cancer. Lecène, therefore, performed gastrectomy and by postoperative examination of the specimens showed that there was a definite canceration of the callous ulceration of the stomach wall in almost one fourth of the cases (fifteen out of sixty-three).

Gazette Hebdomadaire des Sciences Méd. de Bordeaux

49: 193-208 (March 25) 1928

*Case of Urinary Lithiasis in an Infant. H. L. Rocher and H. Blanc.—p. 203.

Infantile Urinary Lithiasis.—Rocher and Blanc report a case of vesicorenal lithiasis in a 3 year old infant, whose mother had been operated on at the age of 3 years for bladder stone and two of whose sisters had likewise had bladder stones; one died but the other one was operated on and recovered. In this case the symptoms were typical and cystoscopy confirmed the diagnosis. Roentgen-ray examination showed four calculi in the bladder and, in addition, a calculus of the same size, shape, and opacity at the level of the pelvis of the left kidney. The four vesical calculi were removed by suprapubic cystotomy. Two weeks later the lumbar region on the right side became painful and rigid and the general condition of the patient became grave. The kidney was exposed and a stone was removed from the neck of the ureter. Death took place two weeks later from pyelonephritis. In lithiasis in infants one should remember the frequency of heredity, the frequent absence of macroscopic hematuria, and the necessity of taking roentgenograms of the entire urinary tract in every case.

Journal de Chirurgie, etc., Brussels

26: 177-208 (Nov.) 1927

Ten Cases of Perforation of Acute Ulcers of Stomach and Duodenum. Delrez and Tytgat.—p. 179.
Treatment of Facial Neuralgia by Alcohol Injection of Pericarotid Sympathetic Fibers. R. Danis.—p. 180.
Fracture-Dislocation of Axis: Fractures of Clavicle, Scapula, Spinous Epiphyses and Neck of Humerus. Gyselynck.—p. 183.
Meningoblastoma Visualized by Radiography: Operation and Recovery. Moreau.—p. 185.
Cavernous Lymphangioma of Face Cured by Sclerosing Injections. Tytgat.—p. 187.
*Late Results of Operations on Biliary Passages. J. Verbrugge.—p. 191.

Results of Operations on Biliary Tract.—This is a follow-up study, by personal examination, of sixty-two patients operated on for biliary disease. The gallbladder was removed in sixty-one cases; in one case it was drained. In twelve cases the common duct was opened and drained. The peritoneal cavity was drained in all cases. Fifty-three patients had stones, eight had cholecystitis without stones, eight had stones in the common duct. All had a history of severe colics, of an acute attack, or of a pronounced and persistent dyspepsia. Of the sixty-two patients, forty-four, or 70.9 per cent, were cured; twelve, or 19.3 per cent, were much improved, and six, or 9.3 per cent, were not improved. The best results were obtained in patients with a history of biliary colics, but without infection of the biliary system and without associated lesions. It appeared that the less typical the history, the less likelihood there was of a good result. Results were not good in cases with angiocholitis, especially when not accompanied by stones. Results were uniformly poor in cases with an unsatisfactory general state, such as obesity, visceroptosis, infection of the biliary tree with hepatic insufficiency, and in cases in which there were associated lesions, such as ulcer of the stomach or duodenum. The prognosis was always better in earlier and in the more acute cases than in cases of long duration with less prominent symptomatology. There was recurrence in 16 per cent. The author believes that most of the recurrences were due either to stones overlooked at the operation, or to migration of newly formed stones. Some were possibly caused by spasms of the biliary passages, by pancreatitis, by spasm of the sphincter of Oddi, or by adhesions.

Presse Médicale, Paris

36: 369-384 (March 24) 1928

*Tuberculosis and Heredity. L. Bernard.—p. 369.
Purse-String Closure of Amputation Stumps L. Desgouttes and A. Ricard.—p. 373.
Iontophoresis. H. H. U. Cross.—p. 373.

Tuberculosis and Heredity.—After an exhaustive study of the subject, Bernard concludes that both old and recent observations show that heredity is not a factor in the propagation of tuberculosis. The hereditary transmission of the bacillus occurs in only a very small number of cases. The great diffusion of the disease is due to contagion and this fact is of the greatest importance in outlining prophylaxis.

36: 385-400 (March 28) 1928

*Severe Postoperative Acidosis. Misrachi and Simard.—p. 385.
*Besredka's Antivirus in Treatment of Diseases of the Mouth. A. Redalieu.—p. 386.
Spermoculture in Diagnosis of Chronic Gonorrhea. M. Gory and A. Jaubert.—p. 388.

Treatment of Postoperative Acidosis.—Misrachi and Simard describe the life-saving action of from 5 to 50 units of insulin in three cases of postoperative acidosis in which isotonic solution of dextrose and sodium bicarbonate had no effect and in which a fatal outcome seemed inevitable.

Besredka's Antivirus in Treatment of Diseases of the Mouth.—Redalieu applies sponges dipped in Besredka's antivirus directly to the mucosa of the mouth, compressing the excretory ducts of the salivary glands or using a salivary pump, if necessary, to prevent dilution. He concludes that the specific local application of antivirus can be used with success: (1) in acute and chronic gingivitis and stomatitis; (2) in alveolar periostitis and osteomyelitis; (3) in septic complications of the dental alveoli and soft parts following extraction of teeth or other operations; (4) prophylactically against the complications which may follow any surgical intervention; (5) to relieve the itching and the pain, due to inflammatory conditions, in dentition in infants or adults; (6) as an auxiliary method in the treatment of alveolar pyorrhea.

Revue de Chirurgie, Paris

66: 1-93, 1928

*Gastric Syndrome with Late Pains Without Ulcer. X. Delore, P. Jouve and H. Comte.—p. 5.
*Reduction of Strangulated Hernia en Masse. J. Chavannaz.—p. 33.

Gastric Syndrome with Late Pains Without an Ulcer.—The authors state that once in twenty times, on surgical

exploration in cases presenting characteristic late ulcer pain, no such condition is found. The pathologic changes in such cases may be represented by a thickening and redness of the pyloric antrum and duodenum; at times, by an inflammatory state of the lymph glands; at times, by mechanical derangements of the stomach, such as ptosis, dilatation or distension. In cases presenting thickening and redness of the pyloric antrum and in cases in which pyloric function is impaired through a fibrous or an inflammatory change, operative treatment is indicated. Of sixteen patients on whom gastro-enterostomy was performed for the relief of the above conditions, six reported excellent results; six, good results; one, an improvement which had lasted four years; three were not improved. In six cases evulsion of nerves was practiced, with relief from symptoms in only one case.

Reduction of a Strangulated Hernia en Masse.—A review of cases reported in the literature is presented together with thirty-six recent cases, including three of the author's. Chavannaz warns that in spite of its rarity the possibility of reduction of a strangulated hernia en bloc should be kept in mind. The accident occurred most frequently in elderly persons. The male sex is particularly predisposed. Reduction en bloc of the strangulated mass is almost always the result of attempts at taxis by the physician or the patient. In this series it occurred with greatest frequency in the oblique inguinal hernia of the old. Death is the natural outcome if the condition is left to itself. The diagnosis may be quite difficult. It is most frequently confused with intestinal obstruction. The principal diagnostic indications are the persistence of symptoms after the disappearance of the hernial mass and the existence of a tumefaction at the hernial site. Early surgical intervention is the essential condition for success. The percentage of recoveries in this series was 75, as contrasted with a percentage of 52 in the Corner and Howitt series. With earlier recognition, better results will be obtained.

Revue Médicale de la Suisse Romande, Lausanne

48: 177-240 (March 25) 1928

Postvaccinal Encephalitis. G. Sobernheim.—p. 177.
*Etiology and Prophylaxis of Endemic Goiter. F. M. Messerli.—p. 190.
*Treatment of Postoperative Retention of Urine by Injections of Glycerite of Boroglycerin. E. Fermaud.—p. 212.
Mechanism Involved in Internal Strangulations of Intestine, Particularly Through the Transverse Mesocolon. M. Bruttin.—p. 215.

Etiology and Prophylaxis of Endemic Goiter.—In 1911 Messerli showed that the drinking water in regions where goiter was endemic practically always came from shallow springs and was always infected. In 1914, he produced goiter in white rats by causing them to drink water from a part of Switzerland in which goiter was endemic. In 1923-1924 he produced the same condition in white rats by giving them water which had first been boiled and then passed over human feces. Infected water, however, cannot be considered as the only etiologic factor. Intestinal stasis also plays a rôle. As early as 1921, he used the term "thyroidal constipation." It is of frequent occurrence in goiter patients and disappears under treatment of the goiter. On the other hand, he also noted gradual diminution of the goiter when the patient was gently purged over a period of time, this being equivalent to intestinal disinfection. Of late he has observed marked diminution in goiters in children as the result of abdominal massage and other forms of abdominal gymnastic exercises. An effective prophylaxis of endemic goiter necessitates two types of measures: (1) general measures which improve the hygiene and particularly the drinking water of the people in the endemic regions; (2) measures such as the iodine treatment, which tend to effect the prevention of goiter on a grand scale.

Glycerite of Boroglycerin in Urinary Retention.—In cases of postoperative retention of urine persisting more than twelve hours, Fermaud recommends that 10 cc. of a solution of glycerite of boroglycerin (one part to five parts water) be injected into the full bladder. If the glycerite boroglycerin content is less than 20 per cent it has no effect, and if it is greater, it irritates the bladder.

Schweizerische medizinische Wochenschrift, Basel

58: 281-304 (March 17) 1928

Relations Between Infectious Foci in the Teeth and Disease of Distant Organs. W. Wild.—p. 281.
Danger of Amalgam Dental Fillings. W. Strauss.—p. 285.
*Angiofibroma at Site of Appendix. W. Miescher.—p. 286.
Marriage and Mental Disease. L. Redalié.—p. 289.
Results of Ergosterol Treatment in Rickets. L. Conti.—p. 290.

Angiofibroma of the Appendix.—A man, aged 32, was operated on for symptoms of appendicitis. In the place of the appendix an angiofibroma was discovered. The tumor was lobulated and curled on itself. When stretched out, it had a length of 17 cm. All portions of the vascular system were represented. Nothing that could be definitely recognized as appendicular tissue was found. The clinical symptoms had been caused by torsion of the pedicle of the tumor. It was evident that a torsion of the distal portion of the tumor had occurred at a previous date, but there was nothing in the history to indicate that the earlier torsion had given rise to clinical symptoms.

Archivio di Patologia e Clinica Medica, Bologna

6: 581-656 (Jan.) 1928

*Modifications of Heart Functioning. S. La Franca.—p. 581.
Digestive Leukocytosis After Splenectomy. D. Gargasole.—p. 588.
Primary and Secondary Anemia. E. Greppi.—p. 604.
Lipemic Conditions in Diabetes Mellitus. M. Bufano.—p. 622.
*Respiratory Syndrome of Retrosternal Thyroid. N. Samaja.—p. 634.

Modifications of Heart Functioning.—Circulatory dysfunction may be induced by numerous morbid conditions: (1) deficiency in contractile energy through lowering of inotropic capacity, from anatomic lesions or nervous influences (vagus); (2) deficiency in the volume of blood in a given unit of time caused by impeded emptying of the ventricles due to obstacles of a mechanical nature; (3) diminution in the number of the ventricular contractions due to various pathologic conditions; (4) lack of synergy between the increase in the number of heart beats and the increase in contractile energy, resulting in accelerated and incomplete systoles characterized by diminution of the amplitude and strength of the pulse; (5) excessive acceleration of the atrial pulsations due to increase in the value of the sino-arterial node, of cardiac or reflex origin, or resulting from extraventricular stimuli; (6) increase of the endoventricular and endo-aortic pressure; (7) lack of tonus regulation, namely, in the mechanism by which the cardiac tone is determined and maintained by means of stimuli determined by the pressure prevailing in the cavity, as shown by Loewe, and (8) the increase, transitory or permanent, in the peripheral resistance beyond the point of compensation by the heart.

Respiratory Syndrome of the Retrosternal Thyroid.—Samaja observed a previously unknown type of inspiratory dyspnea which has no connection with an internal goiter or a pathologic accessory thyroid but is caused solely by the displacement of a thyroid normal as to both weight and volume. The author gives his clinical observations in seven such cases.

Policlinico, Rome

35: 65-116 (Feb. 15) 1928. Surgical Section

Statistical and Clinical Data on Pneumonia. M. Ascoli.—p. 65.
Filtrable Virus of Osteomyelitis. V. Jura.—p. 77. C'td.
*Reanimation of Heart in Grave Accidents Under Anesthesia. M. Ronzini.—p. 90.

Reanimation of the Heart in Grave Accidents Under Anesthesia.—Ronzini found in his experiments on thirty-eight chloroformed dogs that a mixture of epinephrine, atropine, solution of pituitary and lobeline is a more effective resuscitant in respiratory failure and collapse than is epinephrine alone.

Rivista di Patologia e Clin. della Tubercolosi, Bologna

1: 481-568 (Nov. 30) 1927

*Infection with the Filtrable Virus of Tuberculosis. F. Arloing.—p. 481.
*Matéfy Tuberculosis Test. A. V. Palombella.—p. 496.
Respiratory Capacity and Constitution in Pneumothorax Patients. V. Monaldi.—p. 507.
*Martinotti Antituberculosis Vaccine. G. Vanni.—p. 531.

Infection with the Filtrable Virus of Tuberculosis.—Arloing says that, in the present state of our knowledge, transplacental transmission of the filtrable virus of tuberculosis

appears to justify these conclusions: (1) The filtrable virus is quickly fatal, inducing a caseous tuberculosis of moderate degree, generalized, somewhat different in its aspects from the ordinary nodular variety; or (2) it produces the syndrome of abiotrophy of the new-born, who succumb from emaciation due to its special pathogenic action; or (3) it remains quiescent for many years, and becomes active in childhood, adolescence or maturity, and produces, commonly, pulmonary tuberculosis, or (4) without developing itself, it produces in the organism that received it through heredity an allergic state that finds expression either in a hypersusceptibility to exogenic superinfection or in resistance to infection.

Matéfy Tuberculosis Test.—Palombella applied the Matéfy test for the early diagnosis of pulmonary tuberculosis in twenty-three cases. There were only nine plainly positive reactions. He concludes therefore that the Matéfy test has no diagnostic value.

Martinotti Tuberculosis Vaccine.—Vanni reports that the Martinotti tuberculosis vaccine gave favorable therapeutic results in the majority of the cases in which he employed it. It is necessary to make a careful selection of cases, as it is a method that will give good results only when the condition of the subject is such that one can count on a sufficient degree of organic reactivity. The method is adapted to ambulant treatment.

1: 569-648 (Dec. 31) 1927

*Height, Weight and Chest Girth of Tuberculous Patients. F. Frassetto. —p. 569.
Clinical and Radiologic Examination of Lungs Reexpanded After Artificial Pneumothorax. F. Marangoni.—p. 579.
Secondary Infection Due to the Filtrable Virus. Zuccola.—p. 590.
*Percussion of Apex of Lung. A. Cecchini.—p. 595.
Modifications of Sputum in Tuberculosis After Use of Sanocrysin. S. Sticotti.—p. 605.

Height, Weight and Chest Girth of Tuberculous Patients.—Frassetto found that the average height of recent levies for the army is 2.5 cm. greater than that of the levies of 1859-1863, not only in healthy men, but also in the tuberculous. The height of patients with pulmonary tuberculosis exceeded by 2.5 cm. that of the healthy subjects, not only in the recent levies, but also in the old levies. The chest girth in pulmonary patients is diminished by 2.6 cm. in the recent levies as compared with the old levies, while in the healthy subjects the reduction amounts only to 1.5 cm. In the old levies the chest girth of the tuberculous differed from that of the healthy subjects by 0.9 cm. and in the recent levies by 2 cm. The average weight of the tuberculous (aged 20 to 50) in the recent levies is 12.5 Kg. less than the weight corresponding to the average height of the tuberculous subjects, which was 167.5 cm. Frassetto recommends the creation of anthropologic institutes for the study and control of these health factors.

Percussion of the Apex of the Lung.—Cecchini has found that, from a clinical point of view, the simultaneous use of the percussion methods of Goldscheider, Krönig and Signorelli is of great value, as these various methods supplement one another.

Crónica Médica, Lima

44: 277-324 (Sept.) 1927. Partial Index

*Hydatid Cyst of Lung. C. Villarán.—p. 308.

Hydatid Cyst of the Lung.—Villarán's patient suffered from high fever, cough and abundant expectoration during two weeks. The blood culture was negative, and the blood examination showed 14,100 leukocytes. Sixteen days later, he had a purulent vomica. He developed an area of dulness on the anterior and lateral aspects of the chest, accompanied by intense pain. Roentgen-ray examination showed a large mass in the right lung, pushing the mediastinal contents to the left. Puncture in the median axillary line, in the area of dulness, produced a flow of clear transparent fluid, which on microscopic examination was seen to contain great numbers of ecchinococcus hooklets. At about the same time, the patient, who had had purulent, at times bloody sputum, had a new vomica and expelled a cloudy fluid with fragments of poorly organized membranes. A diagnosis of hydatid cyst of the lung was made. Operation was performed under local infiltration anesthesia. Before opening the pleura, a puncture was made at the point of more marked resistance. The fluid on the right side was evacuated, with the membrane proper, taking advantage of the respiratory movements, which, during violent expiration, had a tendency to expel it. The patient was discharged, cured, eight weeks later.

Medicina Ibera, Madrid

1: 229-260 (March 3) 1928

*Recklinghausen's Disease on Syphilitic Soil. J. Fernández de la Portilla and F. Dauden.—p. 229.
Acute Iodism After Cystography. A. de la Peña.—p. 233.

Recklinghausen's Disease (?) of Syphilitic Origin.—Fernández and Dauden report a case of what was apparently Recklinghausen's disease on a syphilitic soil. There were general nodular lesions, fatty in character, that had run a course similar to those in Recklinghausen's disease and disappeared with antisyphilitic treatment. On the back of the neck were small angiomas. On the left thigh was a tumor about the size of an orange. Two tumors about the size of a pea were present on the right thigh. Local mercury treatment and arsenic by mouth caused the lesions to disappear in from ten to twelve days. The patient had shown suicidal tendencies.

Revista de Ciencias Médicas, Mexico City

7: 1-36 (Jan.) 1928

*Plasmochin in Malaria. M. Ramos Contreras.—p. 5.
Surgical Anesthesia. J. Castilla Escalante.—p. 21. C'td.

Plasmochin in the Treatment of Malaria.—Out of a numerous series of malaria cases treated with plasmochin, Ramos reports eight as being typical. Combination of plasmochin with quinine was found of little value, as cases rebellious to either usually proved resistant to both combined. The by-effects of quinine develop just the same when plasmochin is associated with it. Plasmochin seems to be the drug of choice in children, in persons hypersensitive, intolerant or resistant to quinine, in pregnant women and when prolonged medication seems necessary. Quinine should be preferred in pernicious malaria, when the oral route is not available or advisable, and in plasmochin-resistant cases.

Semana Médica, Buenos Aires

35: 433-492 (Feb. 23) 1928. Partial Index

*Actinomycosis of Colon. J. R. Goyena.—p. 437.
*Fracture of Scapula. T. Gioia.—p. 444.
Fibromatous Epulis. A. A. Fernández.—p. 476.

Actinomycotic Tumor of the Colon.—Goyena's patient was treated with daily intravenous injections of 2 cc. of a 5 per cent solution of iodo-oxyquinoline sulphonic acid. There was improvement after the second injection, with decrease in temperature, almost complete disappearance of pain, appreciable decrease in the infiltration and size of the tumor and decrease in the number of leukocyes and in the polymorphonuclear percentage.

Fracture of the Surgical Neck of the Scapula.—Fractures of the surgical neck of the scapula are more frequent than is generally believed. In contusions of the shoulder, no matter what the intensity of the symptoms, the shoulder should be examined radiographically to determine the presence or absence of bone injury. With proper treatment, healing is the rule, provided there is no injury of the nerves or important vessels. The most frequent complications are arthritis and periarthritis, with decreased function of the scapulohumeral joint.

Vida Nueva, Havana

21: 75-130 (Feb. 15) 1928. Partial Index

*Treatment of Lupus Erythematosus. B. Sáenz.—p. 75.
*Polymorphonuclears in Tuberculosis. F. J. Vélez.—p. 89.

Treatment of Lupus Erythematosus by Means of Gold Salts.—Since 1925 Sáenz has treated twenty-one patients with lupus by administration of a gold preparation. Fifteen were cured, three stopped treatment and three were uninfluenced. The gold salts were given in gradually increasing doses. The congestive types were the most amenable to treatment. Dangerous reactions were not seen.

Polymorphonuclears in Tuberculosis.—Vélez calls attention to the inhibition in the development of polymorphonuclears on the part of the tubercle bacillus toxin and describes the histologic appearance of the various forms of these cells.

Archiv für klinische Chirurgie, Berlin

150: 1-162 (March 12) 1928

*Experimental Homeoplastic Transplantation of Testes. R. Demel.—p. 1.
Pathology of Parotid Tumors. P. Meyer.—p. 20.
*Localized Fibrous Osteodystrophy. W. R. Braizew.—p. 37.
*Ganglion Operation of Neumüller and Orator. O. W. Rudakowa.—p. 58.
*Acute Pancreatitis: Treatment with Antiferment. A. Roseno and W. Dreyfuss.—p. 64.
*Treatment of Profuse Hemorrhages into Peritoneal Cavity. G. Büttner. —p. 93.
Change in Hydrogen Ion Concentration in Cerebral Fluid in Experimental Concussion of Brain. R. Vara-Lopez.—p. 111.
Intracardiac Injection. G. Körbler.—p. 115.
Flexion of Metacarpophalangeal Joint of Index Finger from Interposition of Joint Capsule Following Spontaneous Reduction of Lateral Dislocation. Gontermann.—p. 124.
Persistent Müller's Ducts in Sac of Inguinal Hernia in Men. A. Hilse. —p. 129.
Microscopic Study of Capillaries After a Periarterial Sympathectomy. W. Rieder.—p. 136.
Retarded Healing of Wounds, Ulcers and Inflammations in Extremities with Vasomotor Disturbances. M. J. Lorin-Epstein.—p. 139.
Sterilization of Field of Operation with Brilliant Green. S. A. Bakkal. —p. 152.
Symptoms and Surgery of Bronchial Carcinoma. G. Wolfsohn.—p. 156.

Experimental Homeoplastic Transplantation of Testes in Animals.—Demel experimented with two groups of rats. In group one, one testis was removed from each animal and a testis from another rat was implanted in the emptied scrotum. A rapid shrinkage in size occurred; from four to eight weeks after the operation, no trace of the transplant remained. Histologic studies of the transplants showed rapid disappearance of normal histologic characteristics. In a four weeks old transplant, seminal epithelium, interstitial cells and spermatozoa were no longer in evidence. In a second group, the following technic was adopted with the view of improving the vascularization of the transplant. In a first sitting, the vas deferens and the deferential artery were ligated and cut. At the second sitting, fourteen days later, an extensive scarification of the inner surface of the tunica vaginalis propria and of the tunica albuginea testis was carried out. Three weeks later the rest of the spermatic cord was sectioned and the tunica vaginalis and the scrotum were closed. At a fourth operation fourteen days later the testis was removed by blunt dissection of the adhesions and transplanted into the scrotum of another animal. Thus the granulation tissue of the scarified testis was brought in contact, in its new environment, with a somewhat similar tissue on the inner surface of the tunica vaginalis. These transplants persisted unchanged in form and size for three months, after which period they likewise diminished in size and eventually disappeared. Histologic studies showed numerous blood vessels in the granulation tissue surrounding the transplant and reaching into the tunica albuginea testis. The seminal canals were lined with normal epithelium and an abundant spermatogenesis with mature forms in the epididymis was in evidence. In a two months old transplant retrogressive changes were already marked and in a four months old transplant neither seminal epithelium nor interstitial cells were any longer recognizable.

Localized Cystic Fibrous Osteodystrophy.—On the basis of a histologic study of three cases of localized cystic fibrous osteodystrophy, the author is inclined to regard the process as a functional anomaly of the embryonal osteoblastic mesenchyma in which a fibrous bone marrow is formed, which is capable of proliferation and of formation of osteoid tissue and of bone of incomplete structure. This functional abnormality of the osteoblastic mesenchyma may be limited to isolated areas in a bone or it may involve an entire bone or a number of bones. The proliferation of the fibrous marrow is apparently provoked by such agents as injury and hemorrhage. The proliferative energy of the fibrous tissue appears to vary in different cases. Usually the process is a slow one. In exceptional cases it may be rapid and is then characterized by polymorphism of its cells, suggesting a sarcomatous nature. The solitary bone cysts develop as the result of fibrous osteodystrophy, because of edema and destruction of the central portion of the fibrous tumor, probably caused by extravasation of blood into the fibrous bone marrow. In his opinion the operation of choice is subperiosteal resection of the entire involved portion of the bone, followed by autoplastic bone transplantation. Curettement of a solitary cyst is reserved for the cases in which resection is impossible because of the localization.

Ganglion Operation of Neumüller and Orator.—Rudakowa reports excellent results in fourteen cases operated on by Neumüller and Orator's method. This consists of laying open the ganglion by a crucial incision and suturing the resulting four flaps to the surrounding loose connective tissue. The absorbing power of the latter is relied on to prevent the accumulation of the colloid-like fluids. The principle is the same as that utilized in draining ascites or hydrocephalus into the surrounding subcutaneous connective tissue. The operation is far more simple and safe than radical excision of the ganglion, and the results are at least as good.

Antifermentative Treatment of Acute Pancreatitis.—The mortality with operative interference in acute pancreatitis was 50 per cent in the series of 1,500 cases compiled by Schmieden. From their clinical observation as well as from their animal experiments, the authors have come to the conclusion that obstruction alone does not produce a severe grade of pancreatitis. Intravenous injection of pancreatic secretion does not produce symptoms of severe intoxication. Severe toxemia can be produced by the activated secretion only. They lost two patients in whom, at operation, there was noted a simple edema of the pancreas and a gallbladder containing stones. They removed the gallbladder in each case but did not split the capsule of the pancreas. Postmortem examinations showed total necrosis of the pancreas. Apparently, the removal of the gallbladder alone does not always remove the cause of pancreatic congestion. They therefore urge the splitting of the pancreatic capsule or at least drainage of the common bile duct in all such cases. Diastase determinations in the blood and urine should be made in every case of cholecystitis, since its increase means pancreatic involvement. They point out, however, that even a marked increase of diastase in the blood is not accompanied by toxic manifestations. In view of the fact that acute pancreatitis is the result of retention of a highly activated trypsin, the authors raise the question of the possibility of inactivating the trypsin ferment in the blood. Because quinine has been shown to have the property of inhibiting fermentation, they decided to experiment with quinine derivatives. They produced acute pancreatitis in fifty-nine dogs by ligating the pancreatic duct and injecting into it at the same time from 1 to 5 cc. of bile aspirated from the dog's gallbladder. On the development of an acute pancreatitis, these dogs were treated by laparotomy and introduction of 250 cc. of a 1 per cent solution of quinine hydrochloride into the peritoneal cavity. This treatment did not arrest the progress of the disease. All of the dogs treated in this manner died. Two of the series were treated by intramuscular injections of a proprietary quinine solution with death in each case. In eleven dogs the intramuscular method was combined with intravenous injection of quinine. All of these dogs died. The authors state that in their animal experiments they have not been able to demonstrate the antifermentative action of quinine. In a patient with acute pancreatitis, the pancreas was split and drained and 100 cc. of a 1 per cent quinine hydrochloride solution was introduced into the peritoneal cavity. This patient recovered. In a severe case of acute pancreatitis accompanied by peritonitis, this treatment proved of no avail. In a third patient with severe acute pancreatitis and advanced fat necrosis, in addition to surgical treatment the peritoneal cavity was irrigated with a 1 per cent quinine hydrochloride solution and an intravenous injection of the proprietary solution was given daily. Recovery took place. In the fourth patient, in whom there was complete infarction of the pancreas, a combination of two parts quinine hydrochloride with one part urethan was injected, without, however, any influence on the process. The authors do not feel justified

in drawing conclusions as to the antifermentative effect of quinine in these cases, but feel that attempts in this direction are warranted.

Treatment of Profuse Hemorrhage Into Peritoneal Cavity.—The author discusses four methods of treatment for ruptured tubal gestation: (1) reinfusion of blood, (2) leaving the extravasated blood in the peritoneal cavity, (3) subcutaneous and rectal reinfusion, (4) blood transfusion from a donor. He has treated thirty cases, twenty-two by the old method of sodium chloride transfusion, and eight by reinfusion. Uneventful recovery took place in all cases of the first group. In the second, four died, two recovered after stormy complications, and two had an uneventful recovery. The complications of intravenous reinfusion as observed in his cases and as referred to in the literature are: fever, icterus, shock, dyspnea, somnolence, hematuria, oliguria, uremia and death. The method proposed by Ohlshausen of leaving the blood in the peritoneal cavity is objectionable for the following reasons: (1) Absorption by the peritoneum, which is estimated to be something like 36 cc. of blood per hour, is not rapid enough to be of value in the stage in which life is in danger. (2) It may lead to peritonitis or to intestinal paralysis. The most valuable method is blood transfusion from a donor.

Deutsche medizinische Wochenschrift, Berlin

54: 379-422 (March 9) 1928. Partial Index

Modern Women's Dress. Rubner.—p. 379.
Hygienic Shoes. A. W. Fischer.—p. 382.
*Diphtheria and Social Milieu. De Rudder.—p. 385.
Morphinism. P. Wolff.—p. 387.
Pseudogallstone Colic in Pernicious Anemia. H. Natanson.—p. 389.

Diphtheria and the Social Milieu.—Diphtheria, de Rudder affirms, is a disease of childhood only for the reason that most persons acquire immunity to the disease early in life, by contact with the causative organism. The age at which immunity is acquired is a question of milieu. The more crowded the conditions in which the person lives, the earlier is immunity obtained; in cities it is acquired by the great majority in the first two years of life. Statistics do not show a greater total morbidity from diphtheria in socially unfavorable conditions, but only a greater child morbidity from the disease. It is estimated that 1 per cent of the children of Berlin are diphtheria bacillus carriers.

Klinische Wochenschrift, Berlin

7: 529-576 (March 18) 1928. Partial Index

Incidence of Poliomyelitis. S. Engel and S. Segall.—p. 532.
Brain Lesions in a Case of Disturbance of Pain Sense. P. Schilder and E. Stengel.—p. 535.
*Serodiagnosis of Tuberculosis. F. Klopstock and C. Neuberg.—p. 537.
Voluntary Sensitization to Chemically Defined Substances: I. Neoarsphenamine. W. Frei.—p. 539.
*Blood Urea in Scarlet Fever and Tonsillitis. F. Wahlig.—p. 542.
Unreliability of Sugar Tolerance Test in Diagnosis of Pregnancy. O. Bokelmann and J. Rother.—p. 543.
Inheritability of Blood Characteristics. S. Wellisch.—p. 545.
*Isoagglutinin Content of Tissue Juice in Relation to Tissue Transplantation. G. Lenart and J. König.—p. 549.
The Bone of the New-Born. M. Böhm.—p. 551.
*Treatment of Hiccup. Lichtenstein.—p. 552.

Serodiagnosis of Tuberculosis.—Klopstock and Neuberg found antigens obtained by alcoholic extraction of tubercle bacilli previously treated with epichlorhydrin to be superior to the saline "extracts" previously used by them. Results with the alcoholic extracts demonstrated that lipoid antibodies are developed in a high percentage of cases of tuberculosis.

Blood Urea in Scarlet Fever and Tonsillitis.—Wahlig determined the urea content of the blood in forty cases of scarlet fever and in twenty-five cases of tonsillitis. In only four of the scarlet fever cases were considerably increased values found; in two of these there was demonstrable injury to the kidneys. In none of the cases of tonsillitis did the blood urea exceed normal limits.

Isoagglutinin Content of Tissue Juice in Relation to Tissue Transplantation.—The researches of Lenart and König show that tissue juice contains isoagglutinins belonging to the same group as those found in the serum. They suggest that the best conditions for success of transplants will be found where the blood (hence, tissue juice) of the tissue donor agrees with that of the patient.

Treatment of Spasm of Diaphragm.—For persistent hiccup Lichtenstein recommends a dilute cocaine epinephrine solution containing a very small amount of phenol, applied to both nostrils on plugs of absorbent cotton.

Münchener medizinische Wochenschrift, Munich

75: 425-464 (March 9) 1928. Partial Index

Thyrotoxic Gastric Disturbances. H. Curschmann.—p. 425.
*Increasing Erythema Production from Ultraviolet Rays by Means of Soft Soap. H. von Baeyer and O. Dittmar.—p. 428.
Infraclavicular Infiltrate in Tuberculosis. F. Scheidemandel.—p. 430.
Duodenal Sound in Diagnosis of Typhoid. H. Schotter, S. Brodskaja and G. Sinai.—p. 432.
Colon Bacilli in Urine. F. Reiche.—p. 434.
Treatment of Syphilis of Central Nervous System by Intralumbar Protein Injections. K. Mori.—p. 436.
*Hypersympathicotonia and Tonsillitis. K. Csépai.—p. 436.

Action of Soft Soap in Increasing the Power of Ultraviolet Rays to Produce Erythema.—Baeyer and Dittmar applied diluted soft soap to the skin of a number of persons, both blond and brunette, and exposed the skin areas thus treated and untreated skin areas to natural sunlight and to ultraviolet rays of artificial source. In each case the erythema produced was greater in the treated than in the untreated skin.

Hypersympathicotonia and Tonsillitis.—On the basis of an epidemic of follicular tonsillitis in a hospital ward of eleven beds, in which four patients with exophthalmic goiter or iodine hyperthyroidism were attacked, while the other patients, with various diseases (including one with exophthalmic goiter who had just recovered from erysipelas), escaped, Csépai suggests a connection between hypertonia of the sympathetic and predisposition to tonsillitis.

Wiener klinische Wochenschrift, Vienna

41: 329-364 (March 8) 1928. Partial Index

Hormonal Influence on the Monthly Cycle. A. Mahnert.—p. 329.
Influence of Gas-Forming and Vapor-Forming Remedies on the Human Organism. K. Rudsit and M. Sihle.—p. 333.
*Protective Inoculation Against Cholera by Toxoids. R. Kraus and N. Kovacs.—p. 337.
Differentiation Between Organic and Psychic Symptoms of Internal Diseases. F. Deutsch.—p. 338.
Exudative Pericarditis. H. Elias.—p. 340.
*Blood Transfusion in Agranulocytosis. O. Hoche.—p. 344.
Surgical Treatment of Atrophic Paralysis and Other Spinal Cord Diseases. V. Passek.—p. 345. C'tn.

Protective Inoculation Against Cholera by Toxoids.—Kraus and Kovacs succeeded in obtaining from *Vibrio* toxins toxoids with which they were able to produce antitoxic and antiinfectious immunity in animals. On themselves and on other persons they demonstrated that from 0.5 to 1.5 cc. of these toxoids could be given to human beings without bad effects. In the serum of persons thus treated as well as in that of the treated animals, specific antibodies were present. The human serum agglutinated *Vibrio cholerae asiaticae* in a typical manner.

Blood Transfusions in Agranulocytosis.—Hoche reports cure of a case of agranulocytosis by blood transfusion. A single transfusion of 500 cc. of blood was given on the third day of the disease, when the leukocyte count was 1,200. In two other cases it was not successful.

41: 365-400 (March 15) 1928. Partial Index

*Cytologic Changes in Measles. B. Lipschütz.—p. 365.
*Connection Between Disease of Appendix and of Gallbladder. J. Fabricius and M. Köhler.—p. 368.
Influence of Injection of Freshly Defibrinated Blood of the Patient in Shortening Defibrination Time. T. Preininger.—p. 370.
*Sulphur Treatment of Opticus Atrophy. L. Winkler.—p. 374.
Disturbances of Conduction in the Heart. D. Scherf.—p. 375.
Latent Gonorrhea as Source of Infection. J. Frist.—p. 380.
Surgical Treatment of Atrophic Paralysis and Other Spinal Cord Diseases. V. Passek.—p. 382. C'cn.

Cytologic Changes in Measles.—In the rash of measles, Lipschütz noted constantly the presence of certain cell changes, minute, sharply demarcated corpuscles from 0.2 to 0.3 millimicrons in diameter, which stained distinctly with hematoxylin or iron hematoxylin, situated within the proto-

plasm of the swollen histocytes. These formations he believes to be pathologically altered microcentrums. They followed a definite topographic arrangement in the tissue; he did not find them in the endothelial cells of the blood vessels. Unable, on account of expense, to carry out a sufficient number of experiments of his own, he examined the histologic material obtained by Blake and Trask from the rash of experimental measles in monkeys (*J. Exper. Med.*, 1921). He found the same pathologic microcentrums here as in the measles rash of man. He regards these pathologic centers as "cytologic signals" (Prowazek), denoting the presence of an infection with a filtrable virus of definite kind. They are not specific, but group-characteristic; they appear in German measles and pityriasis rosea, but with a different topographic arrangement in the tissues. For the genesis of these peculiar cell changes in the rash of measles, he suggests injury by the measles virus to the microcentrums of definite kinds of cells.

Connection Between Disease of Appendix and of Gallbladder.—Fabricius and Köhler call attention to the frequent association of gallbladder and appendicular infection. The clinical symptoms of one or the other may predominate, but, in his experience, those of appendicitis are more frequently in the foreground. Of seventy-seven appendectomies performed in 1927, it was found advisable to remove the gallbladder also in twenty-three. He advises carrying the incision high enough to allow a view of the gallbladder, in all cases of appendicitis in which there is tenderness in the region of the liver. If the gallbladder is found to be enlarged, it should be removed with the appendix. He believes the infection to be an ascending one, from the intestine through the choledochus into the cystic and hepatic ducts. Such a chronic cholecystitis may lead to stone formation.

Sulphur Treatment of Opticus Atrophy.—Winkler treated five patients with tabetic atrophy of the optic nerve with 0.5 and 1 per cent sulphur emulsions in olive oil, administered parenterally. The patients received first two bismuth injections and thereafter injections of sulphur and of bismuth, given simultaneously, twice a week. The initial dose was 0.2 cc. of the 0.5 per cent suspension; the dose was increased as was found necessary, but never exceeded 3 cc. The reactions were kept mild in the beginning (temperature below 38 C.). A temperature above 39.5 C. was never obtained. Improvement lasting (to date) eighteen, eight and five months, respectively, was obtained in three of the cases. In the two other cases, the condition has remained stationary during the three and four months since the treatment.

Zentralblatt für Chirurgie, Leipzig

55: 641-704 (March 17) 1928

*Vasectomy in Prostatic Hypertrophy. T. Hühne.—p. 642.
Rare Malformations of Epididymis. W. Rieder.—p. 646.
Ball-Valve Limb. H. von Baeyer.—p. 649.

Vasectomy in Prostatic Hypertrophy.—Vasectomy constitutes an almost certain means of prevention of infection of the testes and epididymis in the course of use of a retention catheter. He warns however against considering it a radical procedure for the cure of prostatic hypertrophy. In patients with irreparable damage to the kidney or when for some other reason a radical prostatectomy is inadvisable, the prostate should be treated with pepsin-procaine hydrochloride injections. Prostatic enlargement diminishes under this treatment and spontaneous urination again becomes possible. In cases in which catheterization is still necessary, vasectomy is indicated. All symptoms of rejuvenation observed in these cases can be explained on the basis of the removal of a noxious state. The gain in weight and the functional capacity are greater after prostatectomy than after vasectomy. Potentia coeundi was not influenced by vasectomy.

55: 769-832 (March 31) 1928

Operation for Pseudarthrosis. F. Bode.—p. 769.
*Mucoclasis and Surgery of Biliary Tract Without Drainage. B. O. Pribram.—p. 773.
A Case of Spontaneous Rupture of Bladder. N. V. Jilow.—p. 780.

Mucoclasis and Surgery of Biliary Tract Without Drainage.—Pribram considers omission of peritoneal drainage as an improvement in technic from the viewpoint of obtaining a smoother and shorter convalescence and of avoiding the formation of fistulas. The very large series of Hotz and Enderlen shows that in spite of peritoneal drainage, peritonitis was the most frequent cause of death. Pribram advances the idea that drainage is harmful, particularly in old and complicated cases and in elderly patients. In the latter, abdominal drainage produces a harmful effect on the heart and circulation. This factor may account in his opinion for the markedly worse prognosis in patients past forty. In his series of 200 cases without drainage, no such difference was noted. Other untoward results of the leaving in of drains are bleeding due to erosion and acute dilatation of the stomach. The well known objections to omission of drainage are the opening up of the stump of the cystic duct, hemorrhage and escape of bile from the bed of the liver. Proper peritonization of the stump with flaps from the hepatoduodenal ligament and careful subserous extirpation of the gallbladder obviate these. He describes a new technic for cases in which subserous removal of the gallbladder is not possible. The gallbladder is evacuated by a suction pump, the fundus is split with scissors and the stones are removed. The cystic duct is freed and cut between two ligatures. The mucosa is destroyed by a thermocautery down to the serosa. This leaves two serous flaps which are now sutured together. The author used this method of "mucoclasis" in difficult cases, and closed without drainage. He did not drain in cases in which the common bile duct was opened for stones, so long as the papilla of Vater was sufficiently patent. He performs a choledochoduodenostomy in cases with a narrowed papilla. He objects to rotation of the liver because of the effect on aeration, the diaphragm and the development of postoperative pneumonia. In his series of 200 cases there were three deaths, one due to acute yellow atrophy, one to purulent parotitis, and one to an hepatic abscess which developed around an intrahepatic stone. The outstanding feature was the remarkably smooth convalescence in elderly patients with complicated cases.

Zentralblatt für Gynäkologie, Leipzig

52: 409-472 (Feb. 18) 1928

*Intra-Uterine Pregnancy After Operation for Bilateral Tubal Pregnancy. W. Zangemeister.—p. 411.
Syphilis of Portio Uterinus. H. Hinselmann.—p. 412.
Diagnosis of Syphilis in Mother and Child. E. Philipp.—p. 416.
Study of Colles' and Profeta's Laws. E. Philipp.—p. 420.
Salpingostomy and Passage of Tubal Sounds in Treatment of Sterility. R. Schwarcz and D. E. Centanaro.—p. 426.
Alcoholic Extract Reaction in Relation to Rapidity of Sedimentation of Erythrocytes. W. Schmidt.—p. 429.
Are Mixtures of Organ Extracts Superior to Solution of Pituitary as Oxytocics? A. Calmann.—p. 432.
*Repeated Rupture of Uterus After Cesarean Section. A. Engels.—p. 433.
Treatment of Suppurative Appendicitis in Advanced Pregnancy. M. Rosenthal.—p. 436.
Autohemotherapy in Adnexal Inflammation. W. Löbner.—p. 437.

Intra-Uterine Pregnancy After Operation for Bilateral Tubal Pregnancy.—The case cited by Zangemeister is said to be the second on record. A woman, aged 24, was operated on in 1925 for a left tubal pregnancy. The tube was removed. In 1926 she was operated on for right tubal pregnancy. Tube and ovary were removed. Now she was two months pregnant in utero. She aborted and placental tissue were verified microscopically in the uterine contents.

Repeated Rupture of Uterus After Cesarean Section.—Engels reports the case of a woman who was subjected to cesarean section in her first pregnancy because of eclampsia. Five years later, during the ninth month of her second pregnancy, the uterus ruptured in the scar of the section. The child was dead. Extensive adhesions developed, firmly uniting the scar with the abdominal wall. The following year she again became pregnant. Because of the adhesions, the uterus above the scar was thinned out very considerably, and in the ninth month of pregnancy it ruptured. A living child was extracted and a supravaginal amputation was done.

52: 473-536 (Feb. 25) 1928

Pathologic Changes in Kidney in Eclampsia: Differentiation from Other Forms of Bright's Disease. T. Fahr.—p. 474.
Surgical Restoration of Missing Urethra and Its Sphincter. H. Martius.—p. 480.
*Operation for Restoration of Outlet of Bladder Including Urethra. O. Kneise.—p. 487.

Case of Anus Urethralis. A. Matusovszky.—p. 496.
Vesical Tenesmus: Treatment. H. Eymer.—p. 498.
Trauma of Bladder During Delivery. R. Jahreiss.—p. 501.
Origin of Ischuria Paradoxa from Myoma. F. von Kühbacher.—p. 502.
Neurofibromata Vesicae Urinariae. H. Heidler.—p. 504.
Incrusted Ulcer of Bladder as Late Result of Roentgen-Ray Therapy. Handorn.—p. 507.
*Case of Recurring Uterine and Vesical Stone. L. Liebl.—p. 510.
Ureterocele Vesicalis and Ureteral Calculus. H. H. Schellhas.—p. 514.
Ureter and Infectious Processes in Its Vicinity. H. Friedrich.—p. 519.
Does Spontaneously Voided Urine Find Its Way into the Distal Portion of the Vagina. F. Anders.—p. 524.
Enema Tip in Bladder. L. Horneffer.—p. 527.

Operation for Restoration of Outlet of Bladder, Including Urethra.—In Kneise's case, an unusually difficult delivery with a dry labor resulted in extensive necrosis of the neck of the bladder and the proximal portion of the urethra. The bag of waters ruptured about one hundred hours before labor pains began. Six vaginal examinations had been made before Kneise saw the patient and evidence of infection was present. Perforation and cranioclasty were eventually done. The patient recovered slowly. On the eleventh day vagino-vesical and rectovaginal fistulas developed. On the twenty-fifth day the necrotic uterus and adnexa were expelled. A large defect in the vesical trigone remained. This defect was repaired by a plastic operation, which was successful.

Case of Recurring Uterine and Vesical Stone.—Liebl reports the case of a woman, aged 54, who was operated on twice within a five-year period for vesical and uterine calculi. One year after the first operation, she passed a small vesical stone. At the second operation the bladder was completely filled by one large stone. The uterine stones were wedged tightly in the cervix. This is said to be the only case of the kind on record.

Zentralblatt für innere Medizin, Leipzig

49: 233-248 (March 17) 1928

*Poisoning from Eating Figs. G. Zickgraf.—p. 237.

Poisoning from Eating Figs.—A case of poisoning, with high fever and severe gastro-intestinal symptoms, is reported by Zickgraf. It was found to have been caused by ingestion of a single uncooked dried fig, spoiled by *Aspergillus niger*.

Nederlandsch Tijdschrift v. Geneeskunde, Haarlem

72: 765-916 (Feb. 18) 1928. Partial Index

*Disturbance of Heat Regulation and Diseases of Respiratory Organs. J. J. van Loghem.—p. 786.
*Question of Existence of Filtrable Form of Tubercle Bacillus. A. C. Ruys.—p. 795.
Ovarian Fibroma with Hemorrhage. H. Feriz and M. J. Averes.—p. 806.

Disturbance of Heat Regulation and Diseases of Respiratory Organs.—Loghem made a study of the relationship between atmospheric temperature and epidemics of colds and light forms of influenza. He concludes that such diseases of the respiratory tract are caused primarily by disturbance of heat regulation in the body, in consequence of which the latter becomes susceptible to attack from hitherto commensal bacteria. Prophylaxis should aim at maintaining the normal warmth of the body.

Question of Existence of Filtrable Form of Tubercle Bacillus.—Only one of the forty-two guinea-pigs injected by Ruys with filtrates of tuberculous material developed typical, inoculable tuberculosis, with acid-fast bacilli in the affected organs. The literature is reviewed and discussed.

72: 1181-1276 (March 10) 1928

Differential Diagnosis of Acute Exanthems. J. Kuiper.—p. 1182.
Transference. A. J. W. Holstijn.—p. 1188.
Compression of Parametria for Hemorrhage in Third Stage of Labor or in Placenta Praevia. H. L. Coopman.—p. 1195.
Postvaccinal Encephalitis. H. Aldershoff and A. B. F. A. Pondman.—p. 1198.
*Actinomycosis of Central Nervous System. B. C. Ledeboer.—p. 1202.

Actinomycosis of the Central Nervous System.—A case of actinomycosis of the brain in a youth, aged 19, is reported by Ledeboer. Headache, the earliest symptom, was severe throughout. The first objective symptom was ptosis of the right lid. This was followed by total ophthalmoplegia on the right side, left abducens paresis, swelling of the right half of the face, high fever, emaciation, large increase of cells in the cerebrospinal fluid, Kernig's sign, slight delirium and, at the end, pathologic foot reflexes. It seems probable that the disease started in the oculomotor nerve. Symptoms had been present for twelve weeks before he was taken into the clinic. He died some days later. At necropsy the most extensive changes were found in the right temporal lobe. There was thick pus around the medulla oblongata and the pons. The right temporal lobe contained numerous pea-sized abscesses and one abscess from 3 to 4 cm. in diameter. Actinomyces were present in the pus but were not found in the cerebrospinal fluid. Macroscopically the pus presented no peculiarities.

Acta Chirurgica Scandinavica, Stockholm

63: 107-206 (March 7) 1928

Thirteen Cases of Impacted Medial Fractures of Neck of Femur. G. Odelberg-Johnson.—p. 107. In English.
*Hematogenous Actinomycosis of Long Bones. A. Krogius.—p. 121.
*Radium Therapy of Cancer of Bladder. R. Ingebrigtsen.—p. 133.
*Extirpation of Urinary Bladder for Carcinoma. L. J. Lindström.—p. 137. In English.
Posttraumatic Chondromalacia of Patella. O. Aleman.—p. 149.
Diagnosis of Appendicitis in Women. E. Perman.—p. 191.

Actinomycosis of Bones.—Krogius relates the case of a woman, aged 29, who injured her knee in October, 1925. In February, 1926, she noticed a tender swelling on the upper part of the left tibia and a serous exudation in the left knee joint. There was marked pyrexia. Roentgen-ray examination revealed destruction of bone in the upper tibial metaphysis. On trepanation of the tibia, a cavity was found in the upper part of its diaphysis, filled with offensive yellowish-gray pus. Later abscesses developed in the lower part of the thigh. Actinomycotic granules were found in the pus. No primary actinomycotic focus could be found in the lungs or any other organs. In spite of energetic treatment with incisions and curetting of the abscess cavities, iodine medication, roentgen ray, sunlight, etc., there was no tendency to healing. The patient died about eight months after admission to hospital.

Radium Therapy of Bladder Cancer.—Ingebrigtsen reports a case of cancer of the bladder in a man, aged 65. In 1920 he was treated by suprapubic application of 110 mg. of radium, screened with 3 mm. of lead, for forty-eight hours. Seven years later, he was well, without any trace of recurrence.

Total Extirpation of Urinary Bladder.—In both of his cases, Lindström extirpated the bladder and implanted the ureters into the sigmoid colon. One patient died three months later of pyelonephritis; the other died seven and a half months after the extirpation, as a result of carcinoma of the peritoneum. Lindström recommends the Mauclair-Enderlen-Krönig operation, done in two stages.

Hygiea, Stockholm

90: 129-176 (Feb. 29) 1928

Physiology of the Voice. V. Nasiell.—p. 129.
*Conjugate Spasms of Muscle of Eye in Chronic Epidemic Encephalitis. H. Sjögren.—p. 150.

Conjugate Spasms of Muscles of Eye in Chronic Epidemic Encephalitis.—Sjögren discusses paroxysmal attacks of tonic conjugate deviation of the eyes, usually upward, or upward and outward, in rare instances downward, as an uncommon symptom of the chronic process in epidemic encephalitis. Varied views on the phenomenon are quoted. He compares the symptom with Bell's phenomenon, which, he says, has apparently been overlooked in the attempted explanations. Of the 145 cases of epidemic encephalitis studied, six had clinically observed attacks of this type, five of these showing inability completely to close the eyes, and five had a history of attacks, only one showing impairment of the facial nerve. Symptoms from the cranial nerves in encephalitis may be transitory; without involvement of the facial nerve the phenomenon is absent. Of the remaining 134 cases, impaired function of the orbicularis palpebrarum was seen in only four. He concludes that the eye symptom is secondary to impaired function of the facial nerve. As the attacks usually occur when the patient is tired, he thinks the effort to wink with the affected orbicularis constitutes the impulse for the spasm. The duration of the symptom agrees with the "Beharrungstendenz" (tendency to inertia) typical in post-encephalitic conditions.